LISTE DE SEQUENCES

<110> Institut Pasteur
Centre National de la Recherche Scientifique -CNRS
Génoscope

<120> Banque génomique du cyanophage S-2L et analyse fonctionnelle

<130> D19791

<160> 527

<170> PatentIn Ver. 2.1

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<211> 45570

<212> ADN

<213> Cyanophage S-2L

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<210> 2
<211> 169
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature

<223> New ORF = left: 9 right: 515 frame: 1 size(aa): 169

<400> 2

Ser Glu Gly Pro Gly Arg His Gly Asp Val Gln Gly Gly Arg His Arg
1 5 10 15

Met Ala Leu Arg Pro Gly Asp Leu Val Lys Val Met Asp Pro Asp Lys
20 25 30

Gly Gly Val Arg Phe Gly Gly Arg Val Val Ala Gln Asp Gly Asp Thr
35 40 45

Ile Thr Leu Asp Ala Ala Pro Pro Thr Pro Leu Ala Gly Arg Gly Gln
50 55 60

Pro Ala Pro Gly Gly Thr Ala His Gly Arg Ala Gly His Pro Glu Ala
65 70 75 80

Asp Arg Gly Pro Ala Pro Arg Arg His Arg Asp Glu Ala Asp Arg Gly
85 90 95

Pro Ala Pro Gly Ala Pro Gly Gly Gly Ala Ala Glu Gly Arg Val Val
100 105 110

Gly Pro Gly Arg Gly Leu Pro Asp Arg Arg Ala Val Gly Pro Leu Pro
115 120 125

Thr Pro Ala Gly Ala Pro Arg Val Gly Asp Glu Ala Val Arg Trp Gly
130 135 140

Val Gly Pro Gly Arg Ser Arg His Gln Gly Gln Gln Glu Gln Gln Glu
145 150 155 160

Pro His Ala Ala Ser Cys Met Ala Ala
165

<210> 3
<211> 261
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 9 right: 791 frame: -1 size(aa): 261

<400> 3

Leu Ser Arg Trp Pro Ser Thr Arg Gly Arg Arg Ser Ser Pro Ala Ala
1 5 10 15

Ser Ser Ile Trp Ala Ser Pro Gly Trp Ile Trp Cys Trp Gly Thr Ala
20 25 30

Ala Gly Ser Pro Pro Arg Pro Arg Gly Cys Pro Ser Glu Arg Arg Pro
35 40 45

Leu Asp Pro Ala Arg Arg Pro Arg Ala Ala His Ala Leu Arg Leu Leu
50 55 60

Gly Asp Arg Gly Arg Pro Pro Arg Arg Arg Pro Leu His Pro Gly Ala
65 70 75 80

Asp Pro Pro Asp Arg Arg Pro Pro Pro Gly Asp Leu Arg Arg His Thr
85 90 95

Gly Gly Arg Met Arg Leu Leu Leu Leu Leu Leu Ala Leu Val Pro Ala
100 105 110

Ala Ala Trp Ala Asp Ala Pro Pro Asp Gly Phe Ile Pro Asp Pro Gly
115 120 125

Arg Pro Gly Trp Arg Gly Gln Arg Pro Asp Ser Pro Ala Val Trp Gln
130 135 140

Thr Pro Pro Arg Ala Tyr Asp Pro Pro Leu Gly Gly Thr Pro Ser Gly
145 150 155 160

Gly Pro Trp Arg Gly Ala Pro Val Gly Phe Ile Pro Val Pro Ser Trp
165 170 175

Arg Gly Ala Pro Val Gly Phe Arg Met Thr Gly Pro Ser Val Gly Gly
180 185 190

Ala Pro Arg Gly Trp Leu Pro Pro Ala Gly Glu Gly Cys Arg Gly Cys
195 200 205

Arg Val Glu Arg Asp Arg Val Ala Val Leu Gly Asn His Pro Thr Ala
210 215 220

Glu Ala Asp Pro Ala Leu Val Arg Val His Asp Leu Asp Lys Ile Pro
225 230 235 240

Arg Ala Gln Gly His Pro Met Ala Pro Thr Leu Asn Val Thr Val Ser
245 250 255

Ser Arg Thr Leu Arg
260

<210> 4
<211> 111
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 10 right: 342 frame: 2 size(aa): 111

<400> 4

Arg Arg Val Leu Asp Asp Thr Val Thr Phe Lys Val Gly Ala Ile Gly
1 5 10 15

Trp Pro Cys Ala Leu Gly Ile Leu Ser Arg Ser Trp Thr Arg Thr Arg
20 25 30

Ala Gly Ser Ala Ser Ala Val Gly Trp Leu Pro Arg Thr Ala Thr Arg
35 40 45

```
Ser Arg Ser Thr Arg His Pro Arg His Pro Ser Pro Ala Gly Gly Ser
    50                  55                  60

Gln Pro Arg Gly Ala Pro Pro Thr Asp Gly Pro Val Ile Arg Lys Pro
65                  70                  75                  80

Thr Gly Ala Pro Arg His Asp Gly Thr Gly Met Lys Pro Thr Gly Ala
                85                  90                  95

Pro Arg Gln Gly Pro Pro Glu Gly Val Pro Pro Arg Gly Gly Ser
            100                 105                 110
```

<210> 5
<211> 82
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 35 right: 280 frame: 3 size(aa): 82

<400> 5

```
Arg Ser Arg Trp Ala Pro Ser Asp Gly Pro Ala Pro Trp Gly Ser Cys
1               5                   10                  15

Gln Gly His Gly Pro Gly Gln Gly Arg Gly Pro Leu Arg Arg Ser Gly
            20                  25                  30

Gly Cys Pro Gly Arg Arg His Asp His Ala Arg Arg Gly Thr Pro Asp
        35                  40                  45

Thr Pro Arg Arg Pro Gly Ala Ala Ser Pro Gly Gly His Arg Pro Arg
    50                  55                  60

Thr Gly Arg Ser Ser Gly Ser Arg Pro Gly Pro Arg Ala Thr Thr Ala
65                  70                  75                  80

Pro Gly
```

<210> 6
<211> 65
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 41 right: 235 frame: -3 size(aa): 65

<400> 6

```
Pro Ala Arg Pro Trp Ala Val Pro Pro Gly Ala Gly Cys Pro Arg Pro
1               5                   10                  15

Ala Arg Gly Val Gly Gly Ala Ala Ser Ser Val Ile Val Ser Pro Ser
            20                  25                  30

Trp Ala Thr Thr Arg Pro Pro Lys Arg Thr Pro Pro Leu Ser Gly Ser
```

35 40 45

Met Thr Leu Thr Arg Ser Pro Gly Arg Arg Ala Ile Arg Trp Arg Pro
50 55 60

Pro
65

<210> 7
<211> 91
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 157 right: 429 frame: -2 size(aa): 91

<400> 7

Arg Leu His Pro Arg Pro Gly Ala Pro Arg Leu Ala Trp Ala Ala Ala
1 5 10 15

Arg Gln Pro Gly Gly Leu Ala Asp Pro Ala Gln Gly Leu Arg Pro Ala
20 25 30

Pro Arg Arg His Pro Leu Arg Gly Pro Leu Ala Arg Gly Pro Gly Arg
35 40 45

Leu His Pro Gly Ala Val Val Ala Arg Gly Pro Gly Arg Leu Pro Asp
50 55 60

Asp Arg Pro Val Arg Gly Arg Cys Pro Pro Gly Leu Ala Ala Pro Gly
65 70 75 80

Arg Arg Gly Val Ser Gly Val Pro Arg Arg Ala
85 90

<210> 8
<211> 84
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 239 right: 490 frame: -3 size(aa): 84

<400> 8

Gly Ser Cys Cys Ser Cys Trp Pro Trp Cys Arg Leu Arg Pro Gly Pro
1 5 10 15

Thr Pro His Leu Thr Ala Ser Ser Pro Thr Arg Gly Ala Pro Ala Gly
20 25 30

Val Gly Ser Gly Pro Thr Ala Arg Arg Ser Gly Arg Pro Arg Pro Gly
35 40 45

Pro Thr Thr Arg Pro Ser Ala Ala Pro Pro Pro Gly Ala Pro Gly Ala
50 55 60

Gly Pro Arg Ser Ala Ser Ser Arg Cys Arg Arg Gly Ala Gly Pro Arg
65 70 75 80

Ser Ala Ser Gly

<210> 9
<211> 224
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 346 right: 1017 frame: 2 size(aa): 224

<400> 9

Ala Leu Gly Gly Val Cys Gln Thr Ala Gly Leu Ser Gly Arg Cys Pro
1 5 10 15

Arg Gln Pro Gly Arg Pro Gly Ser Gly Met Lys Pro Ser Gly Gly Ala
20 25 30

Ser Ala Gln Ala Ala Ala Gly Thr Arg Ala Ser Arg Ser Ser Arg Ser
35 40 45

Leu Met Arg Pro Pro Val Trp Arg Arg Arg Ser Pro Gly Gly Gly Arg
50 55 60

Arg Ser Gly Gly Ser Ala Pro Gly Cys Arg Gly Arg Arg Arg Gly Gly
65 70 75 80

Arg Pro Arg Ser Pro Ser Arg Arg Arg Ala Cys Ala Ala Arg Gly Leu
85 90 95

Arg Ala Gly Ser Arg Gly Arg Arg Ser Leu Gly His Pro Leu Gly Arg
100 105 110

Gly Gly Leu Pro Ala Ala Val Pro Gln His Gln Ile His Pro Gly Asp
115 120 125

Ala Gln Ile Glu Leu Ala Ala Gly Glu Asp Leu Leu Pro Leu Val Leu
130 135 140

Gly His Leu Asp Ser Gln Pro Gly His Ala Met Leu Glu Asp Arg Val
145 150 155 160

Asp Val Arg Gly Val Leu Val Glu Ile Pro Val Glu Leu Gln Glu Val
165 170 175

Pro Ala Pro Phe Val Ser Glu Gly Val Asp Gly Pro Pro Arg Thr Gly
180 185 190

Val Gly Ser Ser Val Arg Ser Gly Arg Gly His Gly Asp Arg Thr Ser
195 200 205

Gly Arg Thr Gly Pro Arg Arg Gln Gly Pro Val Pro Arg Pro Glu Gly
210 215 220

<210> 10
<211> 158
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 425 right: 898 frame: 3 size(aa): 158

<400> 10

Ser Arg Gln Val Gly Arg Arg Pro Arg Pro Gln Pro Ala Pro Gly Pro
1 5 10 15

Ala Gly Ala Ala Gly Ala Ser Cys Gly Leu Leu Tyr Gly Gly Val Asp
20 25 30

Leu Pro Glu Ala Val Ala Gly Leu Ala Asp Leu Leu Arg Gly Ala Gly
35 40 45

Asp Asp Val Glu Ala Asp Gly Pro Gly Leu Arg Ala Asp Val Gly His
50 55 60

Val Arg Leu Glu Ala Phe Gly Pro Gly Arg Gly Gly Val Val His Trp
65 70 75 80

Gly Thr Pro Trp Val Glu Val Gly Ser Gln Pro Pro Cys Pro Ser Thr
85 90 95

Arg Ser Thr Pro Ala Met Pro Arg Ser Ser Leu Arg Leu Ala Arg Ile
100 105 110

Ser Phe Leu Leu Cys Trp Ala Thr Ser Ile Val Ser Gln Ala Met Pro
115 120 125

Cys Trp Arg Thr Glu Ser Met Cys Gly Val Tyr Ser Leu Lys Ser Arg
130 135 140

Leu Ser Ser Arg Arg Tyr Gln Pro Arg Leu Ser Val Arg Ala
145 150 155

<210> 11
<211> 75
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 433 right: 657 frame: -2 size(aa): 75

<400> 11

Thr Thr Pro Pro Arg Pro Gly Pro Lys Ala Ser Ser Arg Thr Cys Pro
1 5 10 15

Thr Ser Ala Arg Arg Pro Gly Pro Ser Ala Ser Thr Ser Ser Pro Ala
20 25 30

Pro Arg Ser Arg Ser Ala Arg Pro Ala Thr Ala Ser Gly Arg Ser Thr

35 40 45

Pro Pro Tyr Arg Arg Pro His Glu Ala Pro Ala Ala Pro Ala Gly Pro
50 55 60

Gly Ala Gly Cys Gly Leu Gly Arg Arg Pro Thr
65 70 75

<210> 12
<211> 131
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 494 right: 886 frame: -3 size(aa): 131

<400> 12

Gln Thr Gly Leu Val Pro Pro Gly Ala Gln Pro Gly Phe Gln Arg Val
1 5 10 15

His Pro Ala His Arg Leu Gly Pro Pro Thr Trp His Gly Leu Ala Asp
20 25 30

Tyr Arg Gly Gly Pro Ala Gln Glu Glu Gly Asp Pro Arg Gln Pro Gln
35 40 45

Ala Arg Ser Gly His Arg Arg Gly Gly Ser Gly Ala Gly Ala Arg Arg
50 55 60

Leu Gly Ala His Leu Asp Pro Gly Gly Ala Pro Val Asn Asp Ala Pro
65 70 75 80

Ser Thr Arg Pro Glu Gly Leu Glu Pro His Met Pro Tyr Val Cys Ser
85 90 95

Glu Thr Gly Ala Val Arg Leu Asp Val Val Pro Cys Thr Pro Glu Gln
100 105 110

Ile Arg Gln Thr Gly Asp Arg Leu Arg Glu Ile Tyr Ala Ala Ile Gln
115 120 125

Glu Ala Ala
130

<210> 13
<211> 59
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 612 right: 788 frame: 1 size(aa): 59

<400> 13

Gly Met Cys Gly Ser Arg Pro Ser Gly Arg Val Glu Gly Ala Ser Phe
1 5 10 15

Thr Gly Ala Pro Pro Gly Ser Arg Trp Ala Pro Ser Arg Arg Ala Pro
20 25 30

Ala Pro Asp Pro Pro Arg Arg Cys Pro Asp Arg Ala Cys Gly Trp Arg
35 40 45

Gly Ser Pro Ser Ser Cys Ala Gly Pro Pro Arg
50 55

<210> 14
<211> 134
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 661 right: 1062 frame: -2 size(aa): 134

<400> 14

Ser Ala Trp Cys Trp Gly Ser His Pro Ala Ala His Ser Arg Leu Pro
1 5 10 15

Leu Arg Pro Arg His Arg Pro Leu Thr Pro Arg Pro Ser Ser Ser Thr
20 25 30

Arg Pro Ile Pro Met Ser Ser Pro Thr Ser Asn Ala Ala Thr Asp Ser
35 40 45

Arg Pro Arg Arg Thr Val Tyr Ala Leu Thr Asp Lys Arg Gly Trp Tyr
50 55 60

Leu Leu Glu Leu Asn Arg Asp Phe Asn Glu Tyr Thr Pro His Ile Asp
65 70 75 80

Ser Val Leu Gln His Gly Met Ala Trp Leu Thr Ile Glu Val Ala Gln
85 90 95

His Lys Arg Lys Glu Ile Leu Ala Ser Arg Lys Leu Asp Leu Gly Ile
100 105 110

Ala Gly Val Asp Leu Val Leu Gly His Gly Gly Trp Glu Pro Thr Ser
115 120 125

Thr Gln Gly Val Pro Gln
130

<210> 15
<211> 65
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 795 right: 989 frame: -1 size(aa): 65

<400> 15

```
Arg Arg Gly Pro Val Arg Pro Leu Val Leu Ser Pro Cys Pro Arg Pro
1               5                   10                  15

Leu Arg Thr Leu Leu Pro Thr Pro Val Leu Gly Gly Pro Ser Thr Pro
            20                  25                  30

Ser Leu Thr Asn Gly Ala Gly Thr Ser Trp Ser Ser Thr Gly Ile Ser
        35                  40                  45

Thr Ser Thr Pro Arg Thr Ser Thr Arg Ser Ser Asn Met Ala Trp Pro
    50                  55                  60

Gly
65
```

<210> 16
<211> 80
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 890 right: 1129 frame: -3 size(aa): 80

<400> 16

```
Ala Pro Leu Phe Ser Gln Gln Ser Ser Pro Ser Leu Gln Pro Ser Met
1               5                   10                  15

Leu Leu Leu Leu Arg Leu Ile Arg Leu Val Leu Gly Val Pro Pro Arg
            20                  25                  30

Arg Pro Gln Pro Pro Thr Pro Pro Ala Ser Ala Pro Ala Pro Asp Ala
        35                  40                  45

Glu Ala Gln Phe Val His Ser Ser Tyr Pro His Val Leu Ala His Phe
    50                  55                  60

Glu Arg Cys Tyr Arg Leu Pro Ser Ser Glu Asp Arg Leu Arg Pro His
65                  70                  75                  80
```

<210> 17
<211> 64
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 902 right: 1093 frame: 3 size(aa): 64

<400> 17

```
Thr Val Leu Arg Gly Arg Glu Ser Val Ala Ala Phe Glu Val Gly Glu
1               5                   10                  15

Asp Met Gly Ile Gly Arg Val Asp Glu Leu Gly Leu Gly Val Arg Gly
            20                  25                  30

Arg Cys Arg Gly Arg Arg Gly Arg Arg Leu Trp Ala Ala Gly Trp Asp
```

35 40 45

Pro Gln His Gln Ala Asp Gln Ala Lys Glu Gln Gln His Arg Arg Leu
50 55 60

<210> 18
<211> 50
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 963 right: 1112 frame: 1 size(aa): 50

<400> 18

Asp Glu Trp Thr Asn Trp Ala Ser Ala Ser Gly Ala Gly Ala Glu Ala
1 5 10 15

Gly Gly Val Gly Gly Cys Gly Arg Arg Gly Gly Thr Pro Ser Thr Lys
20 25 30

Arg Ile Arg Arg Arg Ser Ser Asn Ile Asp Gly Cys Lys Asp Gly Glu
35 40 45

Asp Cys
50

<210> 19
<211> 104
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 993 right: 1304 frame: -1 size(aa): 104

<400> 19

Leu Gln Ala Pro Asp Arg Gly Cys Gly Gln Ala Met Gly Leu Leu Pro
1 5 10 15

Pro Pro Pro Gly Gln Ala Pro Asp Leu Glu Ala Pro Gln Arg Arg His
20 25 30

Arg Arg His Pro Gly Leu Val Cys Gln Leu Ala Arg Gly Pro Gln Arg
35 40 45

Arg Ile Pro His Ala Gln Ser Arg Leu Met Ser Ser Pro Ile Leu Ser
50 55 60

Ala Val Leu Ala Val Leu Thr Ala Val Tyr Val Ala Ala Pro Ser Pro
65 70 75 80

Asp Pro Leu Gly Ala Gly Gly Pro Thr Pro Pro Pro Thr Ala Ala Tyr
85 90 95

Pro Ser Gly Leu Gly Thr Gly Pro
100

<210> 20
<211> 56
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 1066 right: 1233 frame: -2 size(aa): 56

<400> 20

Ser Gly Ser Thr Pro Thr Ala Pro Pro Ser Ser Pro Arg Pro Arg Leu
1 5 10 15

Pro Thr Gly Thr Trp Ser Pro Thr Pro Asn Pro Ala Cys Ala Glu Pro
20 25 30

Pro His Glu Leu Pro Tyr Ser Leu Ser Ser Pro Arg Arg Pro Tyr Ser
35 40 45

Arg Leu Cys Cys Cys Ser Phe Ala
50 55

<210> 21
<211> 196
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 1133 right: 1720 frame: -3 size(aa): 196

<400> 21

Ser His Val Arg Thr Asp Pro Pro Arg Arg Arg Arg Arg Leu Arg Asp
1 5 10 15

Leu Arg Trp Leu Arg Pro Gly Asp Pro Arg Gln Arg Pro Pro Leu Ala
20 25 30

His Gly Arg Leu Pro Gly Ala Gly Arg Arg Arg Glu Pro Pro Ala Val
35 40 45

Pro Arg Arg Pro Arg Pro Gly Gly Ala Thr Ala Ser Arg Gly His Pro
50 55 60

Ala Arg Pro Gly Gly Ala His Pro Leu Pro Pro Leu Thr Pro Cys Pro
65 70 75 80

Asp Ser Ala Ser Ser Thr Arg Ser Pro Gly Cys Leu Ser Ala Pro Arg
85 90 95

Ser Ser Thr Ile Arg Pro Ala Ala Trp Ser Ala Ala Arg Asp Ala Ser
100 105 110

Ala Pro Ser Ser Ala Ala Cys Ala Ser Gly Trp Arg Ser Pro Gln Pro
115 120 125

Lys Pro Gly Arg Thr Cys Pro Val Ser Gly Ser Tyr Arg Arg Gln Ile
130 135 140

Glu Ala Ala Ala Lys Arg Trp Gly Phe Tyr Leu His Arg Gln Gly Lys
145 150 155 160

His Leu Ile Trp Lys His Pro Asn Gly Ala Thr Val Val Thr Pro Ala
165 170 175

Ser Ser Ala Asn Trp His Val Val Pro Asn Ala Glu Ser Arg Met Arg
180 185 190

Arg Ala Ala Ser
195

<210> 22
<211> 89
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 1136 right: 1402 frame: 3 size(aa): 89

<400> 22

Gly Gly Ser Ala His Ala Gly Phe Gly Val Gly Asp His Val Pro Val
1 5 10 15

Gly Arg Arg Gly Arg Gly Asp Asp Gly Gly Ala Val Gly Val Leu Pro
20 25 30

Asp Gln Val Leu Ala Leu Ala Val Glu Val Glu Ala Pro Ser Leu Gly
35 40 45

Arg Ser Leu Asp Leu Ala Pro Val Ala Thr Gly His Gly Thr Gly Pro
50 55 60

Pro Gly Leu Arg Leu Gly Ala Pro Pro Ala Arg Arg Ala Cys Arg Arg
65 70 75 80

Arg Gly Arg Arg Gly Val Pro Arg Ser
85

<210> 23
<211> 73
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 1204 right: 1422 frame: 2 size(aa): 73

<400> 23

Arg Arg Trp Arg Arg Trp Gly Ala Ser Arg Ser Gly Ala Cys Pro Gly
1 5 10 15

Gly Gly Gly Arg Ser Pro Ile Ala Trp Pro Gln Pro Arg Ser Gly Ala

20 25 30

Cys Ser Tyr Arg Thr Arg Asp Arg Ser Ser Arg Ala Ser Ala Gly Gly
35 40 45

Ser Ser Ser Gln Thr Arg Met Pro Pro Thr Arg Ala Gln Arg Arg Pro
50 55 60

Ser Gln Leu Thr Thr Arg Pro Ala Gly
65 70

<210> 24
<211> 85
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 1237 right: 1491 frame: -2 size(aa): 85

<400> 24

His His Ala Gln Thr Pro His Pro Ala Pro Ala Pro Arg Asp Ala Ser
1 5 10 15

Gln Pro Pro Gly Pro Gln Leu Ser Gly Arg Pro Arg Gly Gln Leu Arg
20 25 30

Gly Thr Pro Leu Arg Pro Arg Arg Arg His Ala Arg Leu Ala Gly Gly
35 40 45

Ala Pro Ser Arg Ser Pro Gly Gly Pro Val Pro Cys Pro Val Ala Thr
50 55 60

Gly Ala Arg Ser Arg Leu Arg Pro Ser Asp Gly Ala Ser Thr Ser Thr
65 70 75 80

Ala Arg Ala Ser Thr
85

<210> 25
<211> 112
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 1305 right: 1640 frame: 1 size(aa): 112

<400> 25

Leu Pro Asp Thr Gly Gln Val Leu Pro Gly Phe Gly Trp Gly Leu Leu
1 5 10 15

Gln Pro Asp Ala His Ala Ala Asp Glu Gly Ala Glu Ala Ser Leu Ala
20 25 30

Ala Asp His Ala Ala Gly Arg Ile Val Glu Asp Leu Gly Ala Glu Arg
35 40 45

```
His Pro Gly Glu Arg Val Leu Asp Ala Glu Ser Gly His Gly Val Arg
    50                  55                  60

Gly Gly Arg Gly Trp Ala Pro Pro Gly Arg Ala Gly Trp Pro Leu Glu
65                  70                  75                  80

Ala Val Ala Pro Pro Gly Arg Gly Arg Arg Gly Thr Ala Gly Gly Ser
                85                  90                  95

Arg Arg Arg Pro Ala Pro Gly Arg Arg Pro Trp Ala Ser Gly Gly Arg
            100                 105                 110
```

<210> 26
<211> 177
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 1308 right: 1838 frame: -1 size(aa): 177

<400> 26

```
Arg Ala Gly Arg Leu His Arg Leu Pro Ala Pro Ala Val Pro Gly Asp
1               5                   10                  15

Gly Gln Pro Arg Leu His Pro Gln Gly His Leu Arg His Pro Ala Pro
            20                  25                  30

Asp Leu Ser Arg Leu Pro Leu Ile Pro Cys Pro Asn Arg Pro Ala Thr
        35                  40                  45

Ser Ala Thr Ala Ser Thr Arg Pro Ser Met Ala Thr Ala Trp Arg Ser
    50                  55                  60

Ala Ser Thr Thr Thr Ala Arg Pro Trp Ser Pro Thr Trp Ser Arg Ala
65                  70                  75                  80

Ser Ser Arg Thr Ser Ser Gly Ser Ser Thr Thr Thr Pro Arg Trp Ser
                85                  90                  95

Asp Ser Phe Lys Arg Pro Pro Gly Ser Thr Trp Trp Ser Pro Pro Pro
            100                 105                 110

Pro Pro Ser Asp Thr Met Pro Arg Leu Arg Ile Gln His Pro Leu Pro
        115                 120                 125

Gly Met Pro Leu Ser Pro Gln Val Leu Asn Tyr Pro Ala Gly Arg Val
    130                 135                 140

Val Ser Cys Glu Gly Arg Leu Cys Ala Leu Val Gly Gly Met Arg Val
145                 150                 155                 160

Trp Leu Glu Glu Pro Pro Ala Glu Ala Arg Glu Asp Leu Ser Arg Val
                165                 170                 175

Arg
```

<210> 27
<211> 120
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 1426 right: 1785 frame: 2 size(aa): 120

<400> 27

Leu Arg Thr Trp Gly Leu Arg Gly Ile Pro Gly Ser Gly Cys Trp Met
1 5 10 15

Arg Ser Leu Gly Met Val Ser Glu Gly Gly Gly Gly Gly Leu His Gln
20 25 30

Val Glu Pro Gly Gly Leu Leu Lys Leu Ser Leu His Leu Gly Val Val
35 40 45

Val Glu Glu Pro Leu Glu Val Arg Asp Asp Ala Arg Leu Gln Val Gly
50 55 60

Asp His Gly Arg Ala Val Val Val Asp Ala Asp Leu Gln Ala Val Ala
65 70 75 80

Ile Glu Gly Arg Val Asp Ala Val Ala Asp Val Ala Gly Leu Phe Gly
85 90 95

His Gly Ile Asn Gly Lys Arg Glu Arg Ser Gly Ala Gly Cys Arg Arg
100 105 110

Cys Pro Trp Gly Trp Ser Arg Gly
115 120

<210> 28
<211> 82
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 1495 right: 1740 frame: -2 size(aa): 82

<400> 28

Ser Leu Ser Leu Ala Val Asp Pro Met Ser Glu Gln Thr Arg His Val
1 5 10 15

Gly Asp Gly Val Tyr Ala Thr Phe Asp Gly Tyr Gly Leu Glu Ile Arg
20 25 30

Val Asn Asp His Arg Ser Pro Met Val Ala Tyr Leu Glu Pro Gly Val
35 40 45

Val Ala Asn Leu Gln Arg Phe Leu Asp Asp His Ala Gln Val Glu Arg
50 55 60

Gln Leu Gln Glu Ala Thr Arg Leu Asp Leu Val Glu Pro Thr Pro Ser

65 70 75 80

Pro Leu

<210> 29
<211> 57
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 1644 right: 1814 frame: 1 size(aa): 57

<400> 29

Arg Gly Ser Pro Gly Arg Ser His Arg Arg Ser Arg Arg Arg Arg Arg
1 5 10 15

Arg Arg Gly Gly Ser Val Arg Thr Trp Asp Gln Arg Gln Ala Arg Glu
20 25 30

Ile Arg Arg Trp Val Ser Glu Met Ser Leu Gly Val Glu Ser Gly Leu
35 40 45

Thr Ile Ser Arg Asn Ser Arg Cys Arg
50 55

<210> 30
<211> 146
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 1682 right: 2119 frame: 3 size(aa): 146

<400> 30

Thr Pro Ser Pro Thr Trp Arg Val Cys Ser Asp Met Gly Ser Thr Ala
1 5 10 15

Ser Glu Arg Asp Gln Ala Leu Gly Val Gly Asp Val Leu Gly Gly Gly
20 25 30

Val Gly Val Asp His Leu Gln Glu Gln Gln Val Pro Val Gly Gly Ala
35 40 45

Gly Ala Leu Pro Val Thr Thr Gly Thr Ala Ala Asp Ala Ile Leu Glu
50 55 60

Cys Ala Gln Leu Gly Val Glu Ala Lys His Ala Arg Ala Gly Leu Glu
65 70 75 80

Arg Gly Arg Leu Arg Cys Gly Gly Gly Glu Asp Asp Glu Ala Thr Ala
85 90 95

Glu Gly Gly Lys Glu Gly Val Glu Gly Ser His Gly Arg Gly Trp Arg
100 105 110

Trp Thr Pro Gly Lys Gly Pro Leu Gly Ala Pro Glu Gly Phe Gly Arg
115 120 125

Gly Arg Gly Gly Ser Ala Gln Ala Glu Gly Gln Leu Ala Gly Leu Gly
130 135 140

Gln Gly
145

<210> 31
<211> 118
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 1724 right: 2077 frame: -3 size(aa): 118

<400> 31

Pro Pro Pro Ala Thr Ala Glu Pro Leu Arg Gly Pro Gln Gly Pro Leu
1 5 10 15

Ser Arg Cys Pro Pro Pro Pro Pro Met Arg Pro Leu Tyr Ala Phe
20 25 30

Leu Ser Thr Phe Cys Gly Gly Leu Val Val Phe Ala Ala Thr Thr Ala
35 40 45

Gln Ala Ser Pro Leu Glu Pro Ser Thr Gly Val Phe Arg Leu Tyr Ala
50 55 60

Gln Leu Gly Ala Leu Glu Tyr Gly Val Arg Ser Arg Ala Arg Gly Asp
65 70 75 80

Gly Gln Gly Ala Cys Thr Ala Tyr Arg His Leu Leu Phe Leu Glu Met
85 90 95

Val Asn Pro Asp Ser Thr Pro Lys Asp Ile Ser Asp Thr Gln Arg Leu
100 105 110

Ile Ser Leu Ala Cys Arg
115

<210> 32
<211> 85
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 1744 right: 1998 frame: -2 size(aa): 85

<400> 32

Asp Pro Ser Thr Pro Ser Phe Pro Pro Ser Ala Val Ala Ser Ser Ser
1 5 10 15

Ser Pro Pro Pro Gln Arg Arg Arg Pro Arg Ser Ser Pro Ala Arg Ala
20 25 30

Cys Phe Ala Ser Thr Pro Ser Trp Ala His Ser Ser Met Ala Ser Ala
35 40 45

Ala Val Pro Val Val Thr Gly Arg Ala Pro Ala Pro Pro Thr Gly Thr
50 55 60

Cys Cys Ser Trp Arg Trp Ser Thr Pro Thr Pro Pro Pro Arg Thr Ser
65 70 75 80

Pro Thr Pro Ser Ala
85

<210> 33
<211> 100
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 1789 right: 2088 frame: 2 size(aa): 100

<400> 33

Pro Ser Pro Gly Thr Ala Gly Ala Gly Arg Arg Cys Arg Arg Pro Ala
1 5 10 15

Arg His His Gly His Gly Cys Gly Arg His Thr Arg Val Arg Pro Ala
20 25 30

Gly Arg Arg Gly Glu Thr Arg Pro Cys Trp Ala Arg Ala Gly Thr Pro
35 40 45

Ala Leu Trp Trp Arg Arg Arg Arg Arg Gly His Arg Arg Arg Trp Lys
50 55 60

Gly Arg Arg Arg Gly Val Ser Trp Glu Gly Val Glu Val Asp Thr Trp
65 70 75 80

Lys Gly Ala Pro Gly Gly Pro Gly Gly Val Arg Pro Trp Pro Gly Gly
85 90 95

Val Ser Pro Gly
100

<210> 34
<211> 385
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 1842 right: 2996 frame: -1 size(aa): 385

<400> 34

Pro Ala Gly Gly Gly Ala Arg His Gln Ala Arg Leu Pro Arg Pro Arg

```
1               5                   10                  15

Arg Gly Arg Arg Arg Arg Gly Leu Ile Ala Pro Cys Tyr Ser Gly Asp
            20                  25                  30

Thr Gly Ser Gly Arg Pro Pro Pro Tyr Ser Asn Arg Pro Trp Pro Ser
        35                  40                  45

Cys Pro Ala Ile Arg Thr Thr Pro Ser Glu Arg Ala Pro Pro Gly Pro
    50                  55                  60

Pro Pro Pro Pro Ala Ser Trp Ser Arg Cys Pro Pro Ser Arg Thr Cys
65                  70                  75                  80

Cys Ser Arg Arg Thr Thr Pro Pro Pro Ala Ser Gly Asn Gly Ser Ser
                85                  90                  95

Arg Cys Cys Arg Trp Ser Pro Pro Trp Arg Pro Arg Cys Ser Arg Arg
            100                 105                 110

Cys Arg Arg Pro Pro Phe Ala Arg Cys Pro Pro Gly Trp Thr Thr Arg
        115                 120                 125

Ser Ser Arg Pro Gly Asn Trp Cys Ala Gly Leu Arg Ser Trp Leu Thr
    130                 135                 140

Arg Ser Val Cys Asp Ile Leu Arg Gly Asp Cys Ser Arg Ala Leu Ile
145                 150                 155                 160

Val Glu Arg Arg Gly Asn Cys Pro Ser Thr Ala Pro Pro Pro Asn Gly
                165                 170                 175

His His Leu Tyr Arg His Pro Pro Arg Arg His His Arg His Pro Gln
            180                 185                 190

Val Gly Arg Ala His Leu His Pro Leu Arg Arg Pro Pro Val Gln Arg
        195                 200                 205

Arg His Leu Val Arg Pro Gln Leu Gly Arg Pro Pro Arg Pro Gly His
    210                 215                 220

Arg Ser Arg Cys Glu Asp Arg Gly Pro Gly Asp Arg Gly Asp Arg Arg
225                 230                 235                 240

Pro His Asp Ser Gly Pro Gln Gly Pro Asp Gln Gly Pro Asp Pro Gly
                245                 250                 255

Cys Pro Pro Gly Arg Arg Leu Leu His Val Arg Leu Gly Pro His Gly
            260                 265                 270

Pro Leu His His Arg Pro Pro Arg Arg Arg His Arg Gln Arg Cys Arg
        275                 280                 285

Leu Pro Val Ser Asn Pro Gly Arg Gly Pro Gln Ala Gly Pro Gln Pro
    290                 295                 300

Gly Leu Thr Pro Pro Gly His Gly Arg Thr Pro Pro Gly Pro Pro Gly
305                 310                 315                 320

Ala Pro Phe Gln Val Ser Thr Ser Thr Pro Ser His Glu Thr Pro Leu
                325                 330                 335
```

Arg Leu Pro Phe His Leu Leu Arg Trp Pro Arg Arg Leu Arg Arg His
340 345 350

His Ser Ala Gly Val Pro Ala Arg Ala Gln His Gly Arg Val Ser Pro
355 360 365

Leu Arg Pro Ala Gly Arg Thr Arg Val Trp Arg Pro Gln Pro Cys Pro
370 375 380

Trp
385

<210> 35
<211> 61
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 1992 right: 2174 frame: 1 size(aa): 61

<400> 35

Arg Gly Leu Met Gly Gly Gly Gly Gly Gly His Leu Glu Arg Gly Pro
1 5 10 15

Trp Gly Pro Arg Arg Gly Ser Ala Val Ala Gly Gly Gly Gln Pro Arg
20 25 30

Leu Arg Ala Ser Leu Arg Ala Ser Ala Arg Val Arg Asp Trp Gln Ser
35 40 45

Ala Ser Leu Ala Met Ser Pro Pro Gly Arg Thr Met Val
50 55 60

<210> 36
<211> 145
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 2081 right: 2515 frame: -3 size(aa): 145

<400> 36

Trp Asn Gly Gly Gly Thr Ala Pro Pro Pro Leu Leu Pro Pro Met Ala
1 5 10 15

Thr Thr Phe Thr Ala Thr Leu Pro Asp Gly Thr Thr Ala Thr Arg Lys
20 25 30

Ser Ala Glu Arg Thr Tyr Thr His Cys Val Ala Arg Gln Ser Ser Asp
35 40 45

Gly Thr Trp Phe Ala His Ser Trp Ala Gly Arg Pro Gly Leu Ala Ile
50 55 60

Ala Ala Ala Ala Lys Ile Gly Gly Arg Ala Ile Glu Ala Thr Val Ala
65 70 75 80

His Thr Thr Ala Ala Pro Lys Ala Leu Thr Lys Ala Gln Ile Gln Asp
85 90 95

Ala Leu Arg Ala Ala Gly Tyr Tyr Met Ser Gly Trp Val Arg Met Gly
100 105 110

Arg Tyr Thr Ile Val Arg Pro Gly Gly Asp Ile Ala Asn Asp Ala Asp
115 120 125

Cys Gln Ser Leu Thr Leu Ala Glu Ala Arg Lys Leu Ala Leu Ser Leu
130 135 140

Gly
145

<210> 37
<211> 122
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 2092 right: 2457 frame: 2 size(aa): 122

<400> 37

Gly Pro Ala Cys Gly Pro Arg Pro Gly Leu Glu Thr Gly Ser Arg His
1 5 10 15

Arg Trp Arg Cys Arg Arg Arg Gly Gly Arg Trp Cys Ser Gly Pro Cys
20 25 30

Gly Pro Asn Arg Thr Cys Ser Ser Arg Arg Pro Gly Gly His Pro Gly
35 40 45

Ser Gly Pro Trp Ser Gly Pro Trp Gly Pro Leu Ser Cys Gly Arg Arg
50 55 60

Ser Pro Arg Ser Pro Gly Pro Arg Ser Ser Gln Arg Leu Arg Trp Pro
65 70 75 80

Gly Arg Gly Gly Arg Pro Ser Cys Gly Arg Thr Arg Cys Arg Arg Trp
85 90 95

Thr Gly Gly Arg Arg Ser Gly Cys Arg Cys Ala Arg Pro Thr Cys Gly
100 105 110

Trp Arg Trp Cys Arg Arg Gly Gly Trp Arg
115 120

<210> 38
<211> 372
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature

<223> New ORF = left: 2123 right: 3238 frame: 3 size(aa): 372

<400> 38

Arg Leu Ala Val Gly Ile Val Gly Asp Val Ala Ala Gly Ala Asp Asp
1 5 10 15

Gly Val Ala Ala His Ala Asp Pro Thr Gly His Val Val Ala Gly Gly
20 25 30

Pro Glu Gly Ile Leu Asp Leu Gly Leu Gly Gln Gly Leu Gly Gly Arg
35 40 45

Cys Arg Val Gly Asp Gly Arg Leu Asp Arg Pro Ala Pro Asp Leu Arg
50 55 60

Ser Gly Cys Asp Gly Gln Ala Gly Ala Ala Gly Pro Ala Val Gly Glu
65 70 75 80

Pro Gly Ala Val Ala Gly Leu Ala Gly Asp Ala Val Gly Val Gly Ala
85 90 95

Leu Gly Arg Leu Ala Gly Gly Gly Gly Ala Val Gly Glu Gly Gly Gly
100 105 110

Lys Gly Gly Gly His Trp Gly Glu Glu Arg Trp Arg Gly Ser Ser Pro
115 120 125

Ser Val Pro Leu Leu Lys His Gly Ser Asn Pro Arg Ala Ile Cys His
130 135 140

Arg Arg Ile Glu Ser Ala Arg Ile Ser Ser Arg Arg Thr Ser Ser Arg
145 150 155 160

Ala Cys Ser Ile Trp Trp Ser Ser Arg Ala Asp Ile Gly Gln Thr Gly
165 170 175

Ala Ala Asp Ile Phe Ser Ser Thr Gly Ala Ala Met Gly Gly Ser Ile
180 185 190

Asp Ser Thr Gly Ser Ser Arg Ser Gln Arg Arg Glu Val Glu Leu Cys
195 200 205

Val Cys Cys Ser Arg Ser Ser Arg Ala Asp Ile Cys Ser Arg Thr Pro
210 215 220

Gly Val Gly Ala Asp Leu Gly Ala Leu Ser Arg Met Ala Ser Tyr Gly
225 230 235 240

Ser Arg Gly Met Arg Ala Met Gly Gly Trp Asn Arg Val Gly Ala Gly
245 250 255

Leu Ser Arg Tyr Pro His Tyr Ser Thr Gly Gln Ser Ala Leu Val Val
260 265 270

Val Ala Leu Val Gly Val Gly Ala Ala Glu Leu Gly Gly Glu Leu Leu
275 280 285

His Gln Leu Val Lys Gly Ala Val Leu Asp Val Val Asp Leu Gly Val
290 295 300

```
Asp Gln Arg Arg Gln Gly Ala Pro Asp Val Gly Val Gly Leu Ala Gly
305                 310                 315                 320

Leu Ala Val Val Val Gln Ile Gly Gly Glu Leu Val Gly Pro Val Gly
                325                 330                 335

Gly Gly Gln Leu Val Tyr Gly Val Pro Ser Leu Gly Asp Gln Leu Glu
            340                 345                 350

Gly Gly Gly Phe Val His Gly Gly Gly Ala Val Gly Ala Leu Arg Pro
        355                 360                 365

Pro Tyr Thr Tyr
    370
```

<210> 39
<211> 64
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 2211 right: 2402 frame: 1 size(aa): 64

<400> 39

```
Pro Ala Ala Arg Arg Ala Ser Trp Ile Trp Ala Leu Val Arg Ala Leu
1               5                   10                  15

Gly Ala Ala Val Val Trp Ala Thr Val Ala Ser Ile Ala Arg Pro Pro
            20                  25                  30

Ile Phe Ala Ala Ala Ala Met Ala Arg Pro Gly Arg Pro Ala Gln Leu
        35                  40                  45

Trp Ala Asn Gln Val Pro Ser Leu Asp Trp Arg Ala Thr Gln Trp Val
    50                  55                  60
```

<210> 40
<211> 100
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 2251 right: 2550 frame: -2 size(aa): 100

<400> 40

```
His Ile Ala Arg Gly Leu Leu Pro Cys Phe Asn Ser Gly Thr Glu Gly
1               5                   10                  15

Glu Leu Pro Leu His Arg Ser Ser Pro Gln Trp Pro Pro Pro Leu Pro
            20                  25                  30

Pro Pro Ser Pro Thr Ala Pro Pro Pro Pro Ala Ser Arg Pro Ser Ala
        35                  40                  45
```

Pro Thr Pro Thr Ala Ser Pro Ala Ser Pro Ala Thr Ala Pro Gly Ser
50 55 60

Pro Thr Ala Gly Pro Ala Ala Pro Ala Trp Pro Ser Gln Pro Leu Arg
65 70 75 80

Arg Ser Gly Ala Gly Arg Ser Arg Arg Pro Ser Pro Thr Arg Gln Arg
85 90 95

Pro Pro Arg Pro
100

<210> 41
<211> 138
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 2461 right: 2874 frame: 2 size(aa): 138

<400> 41

Arg Trp Trp Pro Leu Gly Gly Gly Ala Val Glu Gly Gln Phe Pro Leu
1 5 10 15

Arg Ser Thr Ile Lys Ala Arg Glu Gln Ser Pro Arg Asn Met Ser Gln
20 25 30

Thr Asp Arg Val Ser Gln Asp Leu Lys Pro Ala His Gln Phe Pro Gly
35 40 45

Leu Leu Asp Leu Val Val Gln Pro Gly Gly His Arg Ala Asn Gly Gly
50 55 60

Arg Arg His Leu Leu Glu His Arg Gly Arg His Gly Gly Leu His Arg
65 70 75 80

Gln His Arg Leu Glu Pro Phe Pro Glu Ala Gly Gly Gly Val Val Arg
85 90 95

Leu Leu Gln Gln Val Leu Glu Gly Gly His Leu Leu Gln Asp Ala Gly
100 105 110

Gly Gly Gly Gly Pro Gly Gly Ala Leu Ser Asp Gly Val Val Arg Ile
115 120 125

Ala Gly His Glu Gly His Gly Arg Leu Glu
130 135

<210> 42
<211> 110
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 2523 right: 2852 frame: 1 size(aa): 110

<400> 42

Ser Thr Gly Ala Ile Pro Ala Gln Tyr Val Thr Asp Gly Ser Ser Gln
1 5 10 15

Pro Gly Ser Gln Ala Gly Ala Pro Val Pro Gly Pro Ala Arg Ser Gly
20 25 30

Gly Pro Ala Gly Arg Thr Ser Gly Lys Arg Gly Pro Pro Thr Ser Ser
35 40 45

Arg Ala Pro Gly Pro Pro Trp Gly Ala Pro Ser Thr Ala Pro Ala Arg
50 55 60

Ala Val Pro Arg Gly Gly Arg Trp Ser Cys Ala Ser Ala Ala Ala Gly
65 70 75 80

Pro Arg Gly Arg Thr Ser Ala Pro Gly Arg Arg Gly Trp Gly Arg Thr
85 90 95

Trp Gly Arg Ser Leu Gly Trp Arg Arg Thr Asp Arg Gly Ala
100 105 110

<210> 43
<211> 118
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 2554 right: 2907 frame: -2 size(aa): 118

<400> 43

Trp Gly Tyr Arg Leu Arg Pro Ala Pro Thr Leu Phe Gln Pro Pro Met
1 5 10 15

Ala Leu Met Pro Arg Asp Pro Tyr Asp Ala Ile Arg Glu Ser Ala Pro
20 25 30

Arg Ser Ala Pro Thr Pro Gly Val Leu Glu Gln Met Ser Ala Leu Glu
35 40 45

Asp Leu Leu Gln Gln Thr His Asn Ser Thr Ser Arg Leu Trp Glu Arg
50 55 60

Leu Glu Pro Val Leu Ser Met Glu Pro Pro Met Ala Ala Pro Val Leu
65 70 75 80

Glu Lys Met Ser Ala Ala Pro Val Cys Pro Met Ser Ala Arg Leu Asp
85 90 95

His Gln Ile Glu Gln Ala Arg Glu Leu Val Arg Arg Leu Glu Ile Leu
100 105 110

Ala Asp Ser Ile Arg Leu
115

<210> 44
<211> 114

<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 2582 right: 2923 frame: -3 size(aa): 114

<400> 44

Leu Pro Arg Ala Ile Val Gly Ile Pro Ala Gln Ala Gly Pro His Pro
1 5 10 15

Ile Pro Thr Ala His Gly Pro His Ala Pro Arg Ser Val Arg Arg His
20 25 30

Pro Arg Glu Arg Pro Gln Val Arg Pro His Pro Arg Arg Pro Gly Ala
35 40 45

Asp Val Arg Pro Arg Gly Pro Ala Ala Ala Asp Ala Gln Leu His Leu
50 55 60

Pro Pro Leu Gly Thr Ala Arg Ala Gly Ala Val Asp Gly Ala Pro His
65 70 75 80

Gly Gly Pro Gly Ala Arg Glu Asp Val Gly Gly Pro Arg Leu Pro Asp
85 90 95

Val Arg Pro Ala Gly Pro Pro Asp Arg Ala Gly Pro Gly Thr Gly Ala
100 105 110

Pro Ala

<210> 45
<211> 77
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 2895 right: 3125 frame: 1 size(aa): 77

<400> 45

Ala Gly Ile Pro Thr Ile Ala Arg Gly Asn Gln Pro Ser Ser Ser Ser
1 5 10 15

Pro Ser Ser Gly Ser Gly Gln Pro Ser Leu Val Ala Ser Ser Ser Thr
20 25 30

Ser Trp Leu Lys Ala Gln Tyr Ser Met Ser Leu Ile Ser Ala Trp Ile
35 40 45

Ser Gly Ala Arg Val Pro Gln Thr Leu Ala Trp Ala Trp Pro Gly Ser
50 55 60

Gln Trp Ser Tyr Arg Ser Ala Gly Ser Ser Ser Ala Leu
65 70 75

<210> 46
<211> 109
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 2927 right: 3253 frame: -3 size(aa): 109

<400> 46

Ile Arg Arg Ala Leu Ile Gly Ile Arg Gly Pro Lys Arg Pro His Arg
1 5 10 15

Ser Pro Thr Met Asp Lys Ala Thr Ala Leu Gln Leu Ile Ser Gln Ala
20 25 30

Trp Asp Ser Ile Asn Gln Leu Thr Ala Ala Tyr Arg Ala Asp Glu Leu
35 40 45

Pro Ala Asp Leu Tyr Asp His Cys Glu Pro Gly Gln Ala His Ala Asn
50 55 60

Val Trp Gly Thr Leu Ala Pro Leu Ile His Ala Glu Ile Asn Asp Ile
65 70 75 80

Glu Tyr Cys Ala Phe Asn Gln Leu Val Glu Glu Leu Ala Thr Lys Leu
85 90 95

Gly Cys Pro Asp Pro Asp Glu Gly Asp Asp Asp Glu Gly
100 105

<210> 47
<211> 90
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 2927 right: 3253 frame: -3 size(aa): 109

<400> 47

Gly Ile Ala Arg Leu Asn Pro Pro Cys Phe Asn Arg Tyr Thr Gly Ala
1 5 10 15

Glu Ala Pro Pro Pro Leu Pro His His Gly Gln Ser His Arg Pro Pro
20 25 30

Ala Asp Leu Pro Gly Leu Gly Leu His Lys Pro Ala Asp Arg Arg Leu
35 40 45

Gln Gly Arg Arg Ala Pro Arg Arg Ser Val Arg Pro Leu Arg Ala Arg
50 55 60

Pro Gly Pro Arg Gln Arg Leu Gly His Pro Gly Ala Ala Asp Pro Arg
65 70 75 80

Arg Asp Gln Arg His Arg Val Leu Arg Leu

85 90

<210> 48
<211> 115
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 3025 right: 3369 frame: 2 size(aa): 115

<400> 48

Ser Arg Arg Gly Ser Ala Ala Pro Gly Cys Pro Arg Arg Trp Arg Gly
1 5 10 15

Pro Gly Arg Ala Arg Ser Gly Arg Thr Asp Arg Arg Gly Ala Arg Arg
20 25 30

Pro Cys Arg Arg Arg Ser Ala Gly Leu Trp Ser Pro Lys Pro Gly Arg
35 40 45

Ser Ala Gly Gly Arg Trp Leu Cys Pro Trp Trp Gly Ser Gly Gly Gly
50 55 60

Ala Ser Ala Pro Val Tyr Leu Leu Lys His Gly Gly Phe Ser Arg Ala
65 70 75 80

Ile Pro Gln Arg Arg Ser Gly Phe Val Val Val His Pro Trp Ala Arg
85 90 95

Tyr Arg Arg Gln Ser Ala Arg Ala Ser Ala Thr Pro Thr Val Trp Val
100 105 110

Ser Trp Ala
115

<210> 49
<211> 146
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 3129 right: 3566 frame: 1 size(aa): 146

<400> 49

Ala Ala Val Ser Trp Phe Met Glu Ser Gln Ala Trp Glu Ile Ser Trp
1 5 10 15

Arg Ala Val Ala Leu Ser Met Val Gly Glu Arg Trp Gly Arg Phe Gly
20 25 30

Pro Arg Ile Pro Ile Lys Ala Arg Arg Ile Gln Pro Arg Asn Thr Ser
35 40 45

Ala Glu Ile Gly Val Arg Ser Gly Pro Pro Leu Gly Ala Val Ser Ala
50 55 60

Pro Val Gly Ser Gly Leu Arg His Pro Asp Gly Val Gly Val Val Gly
65 70 75 80

Ile Ala Gly Pro Gly Ala Tyr Pro Asp Gly Leu Ala Val Thr Gln Gly
85 90 95

His Val Ala Pro Gly Asp Thr Val Gln Thr Arg Glu Gln Gly Ser Trp
100 105 110

Gln Val Glu Leu Val Asn Arg Leu Gly Ser Arg His Arg Gly Gly Ser
115 120 125

Ser Gly Val Gly Arg Gly Gly Gly Arg Gly Ala Pro Gly Trp Leu Arg
130 135 140

Pro Gly
145

<210> 50
<211> 55
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 3241 right: 3405 frame: -2 size(aa): 55

<400> 50

Arg Pro Gly Arg Pro Asp Lys His Leu Val Arg Leu Cys Pro Arg His
1 5 10 15

Pro His Arg Arg Gly Gly Gly Gly Pro Ser Arg Leu Ala Pro Ile Pro
20 25 30

Arg Pro Gly Val Asp His Tyr Glu Pro Arg Ser Pro Leu Arg Tyr Cys
35 40 45

Ala Ala Glu Ser Ala Val Leu
50 55

<210> 51
<211> 104
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 3273 right: 3584 frame: -1 size(aa): 104

<400> 51

Ser Ser Thr Ser Arg Ser Thr Trp Pro Glu Pro Pro Gly Gly Pro Thr
1 5 10 15

Ala Pro Thr Pro Ser His Pro Thr Ala Pro Pro Thr Met Ser Arg Ser
20 25 30

Gln Pro Ile His Lys Leu Tyr Leu Pro Gly Pro Leu Leu Ser Gly Leu
35 40 45

His Arg Val Ser Arg Ser Tyr Met Pro Leu Gly Asp Gly Gln Ala Val
50 55 60

Arg Ile Ser Thr Trp Ser Gly Tyr Ala His Asp Thr His Thr Val Gly
65 70 75 80

Val Ala Glu Ala Arg Ala Asp Trp Arg Arg Tyr Arg Ala Gln Gly Trp
85 90 95

Thr Thr Thr Asn Pro Asp Leu Arg
100

<210> 52
<211> 106
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 3293 right: 3610 frame: 3 size(aa): 106

<400> 52

Trp Ser Thr Pro Gly Arg Gly Ile Gly Ala Ser Arg Leu Gly Pro Pro
1 5 10 15

Pro Pro Arg Arg Cys Gly Cys Arg Gly His Ser Arg Thr Arg Cys Leu
20 25 30

Ser Gly Arg Pro Gly Arg His Pro Gly Ala Cys Ser Ser Gly Arg His
35 40 45

Gly Ala Asp Gln Arg Ala Gly Val Leu Ala Gly Arg Ala Cys Glu Ser
50 55 60

Ala Gly Ile Ser Thr Ser Trp Gly Glu Gln Trp Gly Gly Thr Gly Trp
65 70 75 80

Gly Pro Trp Gly Pro Arg Val Ala Gln Ala Arg Leu Thr Leu Thr Cys
85 90 95

Ser Ile Ser Cys Ala Thr Trp Leu Cys Leu
100 105

<210> 53
<211> 124
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 3389 right: 3760 frame: -3 size(aa): 124

<400> 53

Gly Asn Arg Arg Pro Ala His Pro Arg Gly Arg Pro Arg Ala Ala His

1 5 10 15

His Arg Gly Gln His Arg Arg His Pro Arg Arg Arg Pro Gly Gly Ala
20 25 30

Gln Leu Leu Gly Val Gly Pro Val Gln Ala Asp Arg Leu Leu Gly His
35 40 45

Pro Leu Gln Ala Gln Pro Gly Gly Ala Ala Asp Arg Ala Arg Gln Gly
50 55 60

Gln Pro Gly Leu Ser His Pro Gly Ala Pro Arg Pro Pro Pro Arg Pro
65 70 75 80

Thr Pro Leu Leu Pro Pro Arg Cys Arg Asp Pro Ser Arg Phe Thr Ser
85 90 95

Ser Thr Cys Gln Asp Pro Cys Ser Leu Val Cys Thr Val Ser Pro Gly
100 105 110

Ala Thr Cys Pro Trp Val Thr Ala Arg Pro Ser Gly
115 120

<210> 54
<211> 101
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 3481 right: 3783 frame: 2 size(aa): 101

<400> 54

Ile Gly Trp Asp Leu Asp Ile Val Gly Gly Ala Val Gly Trp Asp Gly
1 5 10 15

Val Gly Ala Val Gly Pro Pro Gly Gly Ser Gly Gln Val Asp Leu Asp
20 25 30

Val Leu Asp Gln Leu Arg His Leu Ala Val Leu Val Glu Gly Ala Pro
35 40 45

Val Gly Asp Pro Leu Val Leu Val Leu His Gln Val Ala Glu Pro Leu
50 55 60

Leu Ala Gly Val Leu Asp Asp Asp Gly Val Ala Leu Asp Gly Ala Leu
65 70 75 80

Leu Glu Val Gly Leu Glu Asp Ala Gln Val Val Asp Tyr Leu Ser Pro
85 90 95

Pro Gly Ala Lys Gly
100

<210> 55
<211> 56
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 3588 right: 3755 frame: -1 size(aa): 56

<400> 55

Ser Thr Thr Cys Ala Ser Ser Arg Pro Thr Ser Ser Ser Ala Pro Ser
1 5 10 15

Arg Ala Thr Pro Ser Ser Ser Lys Thr Pro Ala Arg Arg Gly Ser Ala
20 25 30

Thr Trp Cys Arg Thr Ser Thr Ser Gly Ser Pro Thr Gly Ala Pro Ser
35 40 45

Thr Ser Thr Ala Arg Trp Arg Ser
50 55

<210> 56
<211> 76
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 3652 right: 3879 frame: -2 size(aa): 76

<400> 56

Ile Pro Arg Val Leu Ile Val Val Arg Gly Pro Arg Arg Pro His Arg
1 5 10 15

Phe Gln Thr Met Asp Thr Ile His Thr Gln Phe Ala Glu Ala Gly Leu
20 25 30

Thr Leu Gly Pro Trp Arg Ala Glu Val Ile Asp Asp Leu Arg Ile Leu
35 40 45

Glu Ala Asp Leu Glu Gln Arg Thr Ile Glu Gly Asn Thr Val Val Ile
50 55 60

Gln Asp Ala Gly Gln Glu Gly Leu Ser Tyr Leu Val
65 70 75

<210> 57
<211> 101
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 3662 right: 3964 frame: 3 size(aa): 101

<400> 57

Leu Ser Pro Ser Trp Pro Ala Ser Trp Met Thr Thr Val Leu Pro Ser
1 5 10 15

Met Val Arg Cys Ser Arg Ser Ala Ser Arg Met Arg Arg Ser Ser Ile
20 25 30

Thr Ser Ala Arg Gln Gly Pro Arg Val Arg Pro Ala Ser Ala Asn Trp
35 40 45

Val Trp Met Val Ser Met Val Trp Lys Arg Trp Gly Arg Leu Gly Pro
50 55 60

Arg Thr Thr Ile Lys Thr Arg Gly Ile Gln Leu Arg Asn Thr Pro Gly
65 70 75 80

Leu Val Ser Pro Pro Gly Arg Arg Arg Pro Pro Gly Ser Arg Arg Arg
85 90 95

Arg Arg Ser Ser Arg
100

<210> 58
<211> 250
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 3693 right: 4442 frame: 1 size(aa): 250

<400> 58

Arg Arg Cys Cys Pro Arg Trp Cys Ala Ala Arg Gly Arg Pro Arg Gly
1 5 10 15

Cys Ala Gly Arg Arg Leu Pro Gln Pro Ala Arg Gly Gln Gly Leu Gly
20 25 30

Arg Leu Arg Arg Thr Gly Cys Gly Trp Cys Pro Trp Phe Gly Ser Gly
35 40 45

Gly Gly Ala Ser Ala Pro Val Gln Leu Leu Lys His Gly Gly Phe Ser
50 55 60

Cys Ala Ile Pro Arg Gly Trp Ser Ala Arg Gln Val Gly Glu Gly Leu
65 70 75 80

Pro Asp Leu Gly Val Val Asp Asp Leu Leu Gly Glu Gly Ala Gln Val
85 90 95

Val Leu Leu Ala Glu Gly His Gly Leu Leu Asp Leu Val Tyr Gly Ala
100 105 110

Arg Asp Arg Val Val Ala Gly Arg Ala Glu Gly Pro Leu Asp Leu Gly
115 120 125

Ala Thr Ala Gly Glu Asp Leu Gly Leu Asp Leu Ala Gly Asp Gly Gly
130 135 140

Glu Gly Gly Ala Val His Gly Val Leu Cys Gly Val Tyr Leu Leu Lys
145 150 155 160

His Gly Gly Leu Arg Gly Ala Ile Arg Leu Gly Pro Gly Gln Asp Leu

165 170 175

Gly Pro Val Ala His Glu His His Pro Leu Leu Ala Pro Leu Gly Leu
180 185 190

Val Glu Gly Gly Ala Val Gly His Thr Val Gly Asp Pro Asp Val Val
195 200 205

Asp Arg Gly Pro Ala Ala Ala Leu Ala Pro Ala Met Leu Thr Ile Glu
210 215 220

Val His Leu Ser Gly Ala Val Gly Ala Pro Val Leu Ala Ala Leu Gly
225 230 235 240

Asp Gly His Pro Gly Gly Leu Glu Gly Ala
245 250

<210> 59
<211> 249
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 3764 right: 4510 frame: -3 size(aa): 249

<400> 59

Ala Pro Pro Gly Pro Gly Arg Gly Pro Ser Leu Val Pro Pro His Pro
1 5 10 15

Asp Thr Pro Trp Pro Ser Tyr Ala Pro Ser Arg Pro Pro Gly Trp Pro
20 25 30

Ser Pro Ser Ala Ala Ser Thr Gly Ala Pro Thr Ala Pro Leu Arg Cys
35 40 45

Thr Ser Ile Val Ser Met Ala Gly Ala Arg Ala Ala Ala Gly Pro Arg
50 55 60

Ser Thr Thr Ser Gly Ser Pro Thr Val Cys Pro Thr Ala Pro Pro Ser
65 70 75 80

Thr Ser Pro Ser Gly Ala Arg Ser Gly Trp Cys Ser Trp Ala Thr Gly
85 90 95

Pro Arg Ser Trp Pro Gly Pro Arg Arg Ile Ala Pro Arg Asn Pro Pro
100 105 110

Cys Phe Asn Arg Tyr Thr Pro His Arg Thr Pro Trp Thr Ala Pro Pro
115 120 125

Ser Pro Pro Ser Pro Ala Arg Ser Arg Pro Arg Ser Ser Pro Ala Val
130 135 140

Ala Pro Arg Ser Ser Gly Pro Ser Ala Arg Pro Ala Thr Thr Arg Ser
145 150 155 160

Leu Ala Pro Tyr Thr Arg Ser Arg Arg Pro Trp Pro Ser Ala Arg Ser
165 170 175

Thr Thr Trp Ala Pro Ser Pro Arg Arg Ser Ser Thr Thr Pro Arg Ser
180 185 190

Gly Arg Pro Ser Pro Thr Trp Arg Ala Asp Gln Pro Arg Gly Ile Ala
195 200 205

Gln Leu Asn Pro Pro Cys Phe Asn Ser Cys Thr Gly Ala Glu Ala Pro
210 215 220

Pro Pro Leu Pro Asn His Gly His His Pro His Pro Val Arg Arg Ser
225 230 235 240

Arg Pro Asn Pro Trp Pro Leu Ala Gly
245

<210> 60
<211> 222
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 3883 right: 4548 frame: -2 size(aa): 222

<400> 60

Pro Thr Pro Ala Arg Pro Arg Trp Arg Pro Ala Ala Glu Pro Leu Arg
1 5 10 15

Ala Pro Gly Gly Ala Pro His Ser Ser His Pro Thr Pro Thr Pro His
20 25 30

Gly Gln Val Thr His Pro Pro Gly Arg Pro Asp Gly His Leu Pro Val
35 40 45

Pro Gln Ala Pro Gly Arg Gln Arg Pro Arg Ser Gly Ala Leu Arg Ser
50 55 60

Ser Ala Trp Pro Ala Pro Gly Gln Gln Pro Gly Pro Asp Leu Pro Arg
65 70 75 80

Pro Gly Arg Arg Arg Tyr Ala Leu Arg His Pro Pro Arg Pro Ala Pro
85 90 95

Val Gly Arg Gly Ala Gly Gly Val Arg Gly Gln Pro Gly Arg Asp Pro
100 105 110

Gly Leu Gly Arg Gly Val Leu Arg Leu Val Ile Arg Arg Ala Leu Ile
115 120 125

Gly Ile His Arg Thr Gly Pro His Gly Pro Arg His Pro Pro Arg His
130 135 140

Arg Pro Pro Asp Arg Gly Pro Asp Pro Arg Arg Leu Trp Arg Pro Asp
145 150 155 160

Arg Val Asp Leu Pro Leu Asp Leu Pro Leu His Asp Leu Trp Pro His
165 170 175

Ile Pro Gly Pro Gly Gly Arg Gly Leu Leu Pro Gly Ala Gln Pro Gly
180 185 190

His Pro His Arg Glu Asp Arg Leu Arg Arg Arg Asp Pro Gly Gly Leu
195 200 205

Arg Leu Pro Gly Gly Leu Thr Ser Pro Gly Val Leu Arg Ser
210 215 220

<210> 61
<211> 85
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 3909 right: 4163 frame: -1 size(aa): 85

<400> 61

Val Tyr Thr Ala Gln Asp Pro Met Asp Arg Ala Thr Leu Pro Ala Ile
1 5 10 15

Ala Arg Gln Ile Glu Ala Gln Ile Leu Ala Gly Cys Gly Ala Gln Ile
20 25 30

Glu Trp Thr Phe Arg Ser Thr Cys His Tyr Thr Ile Ser Gly Pro Ile
35 40 45

Tyr Gln Val Gln Glu Ala Val Ala Phe Cys Gln Glu His Asn Leu Gly
50 55 60

Thr Leu Thr Glu Lys Ile Val Tyr Asp Ala Glu Ile Arg Glu Ala Phe
65 70 75 80

Ala Tyr Leu Ala Gly
85

<210> 62
<211> 171
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 3968 right: 4480 frame: 3 size(aa): 171

<400> 62

Gly Cys Pro Gly Cys Ala Pro Gly Arg Arg Pro Arg Pro Pro Gly Pro
1 5 10 15

Gly Ile Trp Gly Gln Arg Ser Cys Ser Gly Arg Ser Ser Gly Arg Ser
20 25 30

Thr Arg Ser Gly Arg His Ser Arg Arg Gly Ser Gly Pro Arg Ser Gly
35 40 45

Gly Arg Trp Arg Gly Gly Trp Arg Gly Pro Trp Gly Pro Val Arg Cys

50 55 60

Ile Pro Ile Lys Ala Arg Arg Ile Thr Arg Arg Asn Thr Pro Arg Pro
65 70 75 80

Arg Pro Gly Ser Arg Pro Gly Cys Pro Arg Thr Pro Pro Ala Pro Arg
85 90 95

Pro Thr Gly Ala Gly Arg Gly Gly Cys Arg Arg Ala Tyr Arg Arg Arg
100 105 110

Pro Gly Arg Gly Arg Ser Gly Pro Gly Cys Cys Pro Gly Ala Gly His
115 120 125

Ala Asp Asp Arg Ser Ala Pro Glu Arg Gly Arg Trp Arg Pro Gly Ala
130 135 140

Cys Gly Thr Gly Arg Trp Pro Ser Gly Arg Pro Gly Gly Cys Val Thr
145 150 155 160

Trp Pro Trp Gly Val Gly Val Gly Trp Asp Glu
165 170

<210> 63
<211> 170
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 4185 right: 4694 frame: -1 size(aa): 170

<400> 63

Ala Ala Gly Arg Gly Pro Trp Cys His Ala Arg His Arg Pro Ala His
1 5 10 15

Pro Pro His Arg Gly Ala Pro Pro Asp Gln Pro Gln Glu Gly Arg Pro
20 25 30

Pro Gly His His Arg Gly His Pro Gln Val Ala Pro Gly Ala Gly Ala
35 40 45

Asp Arg Arg Arg Gln Gly Pro Asp Gly Gly Arg Pro Leu Ser Pro Ser
50 55 60

Gly Pro Arg Glu Gly Pro Leu Thr Arg Pro Thr Pro Pro Arg His Pro
65 70 75 80

Met Ala Lys Leu Arg Thr Leu Gln Ala Ala Arg Met Ala Ile Ser Gln
85 90 95

Cys Arg Lys His Arg Gly Ala Asn Gly Pro Ala Gln Val His Phe Asp
100 105 110

Arg Gln His Gly Arg Arg Gln Gly Ser Ser Arg Ala Pro Ile Tyr His
115 120 125

Val Arg Val Ala Asp Gly Met Pro Tyr Gly Thr Pro Leu Asp Gln Pro
130 135 140

Gln Trp Gly Glu Glu Arg Val Val Phe Val Gly Asn Arg Ala Glu Ile
145 150 155 160

Leu Ala Trp Ala Glu Ala Tyr Cys Ala Ser
165 170

<210> 64
<211> 79
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 4375 right: 4611 frame: 2 size(aa): 79

<400> 64

Ala Gly Pro Leu Ala Pro Arg Cys Leu Arg His Trp Glu Met Ala Ile
1 5 10 15

Arg Ala Ala Trp Arg Val Arg Asn Leu Ala Met Gly Cys Arg Gly Gly
20 25 30

Val Gly Arg Val Arg Gly Pro Ser Arg Gly Pro Glu Gly Leu Ser Gly
35 40 45

Arg Pro Pro Ser Gly Pro Cys Arg Arg Arg Ser Ala Pro Ala Pro Gly
50 55 60

Ala Thr Cys Gly Cys Pro Arg Trp Trp Pro Gly Gly Arg Pro Ser
65 70 75

<210> 65
<211> 90
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 4446 right: 4715 frame: 1 size(aa): 90

<400> 65

Leu Gly His Gly Val Ser Gly Trp Gly Gly Thr Ser Glu Gly Pro Leu
1 5 10 15

Pro Gly Pro Gly Gly Ala Gln Arg Pro Ala Ala Ile Trp Ala Leu Pro
20 25 30

Ala Ser Val Ser Thr Ser Thr Arg Cys Asp Leu Arg Val Pro Ser Met
35 40 45

Val Ala Arg Arg Pro Ala Phe Leu Arg Leu Val Arg Arg Gly Ala Ser
50 55 60

Val Arg Gly Met Cys Arg Thr Val Pro Ser Met Ala Pro Arg Pro Ser
65 70 75 80

Pro Cys Cys Ser Ile Thr Arg Pro Thr Leu
85 90

<210> 66
<211> 442
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 4484 right: 5809 frame: 3 size(aa): 442

<400> 66

Gly Ala Pro Pro Gly Ala Arg Arg Gly Ser Ala Ala Gly Arg His Leu
1 5 10 15

Gly Leu Ala Gly Val Gly Gln His Gln His Pro Val Arg Leu Ala Gly
20 25 30

Ala Leu Asp Gly Gly Gln Glu Ala Gly Leu Leu Glu Val Gly Gln Ala
35 40 45

Gly Arg Leu Gly Glu Gly Asp Val Gln Asp Gly Ala Glu His Gly Thr
50 55 60

Thr Ala Leu Ala Leu Leu Leu Asn His Gln Ala Asp Pro Val Glu Gln
65 70 75 80

Arg Leu Gly Gly Val Val Glu Gly Val Pro Gly Glu Ala Gly Pro Leu
85 90 95

Gly Leu Ala Gly Leu Arg Gly Val Glu Ala Gly Leu Gly Gly Ser Gly
100 105 110

Ala Ala Ala Gly Gly Gly Val His Pro Val Val Gly Gly Gly Leu Gly
115 120 125

Asp Gly Leu Gly Gly Pro Leu Leu Gly Gly Gly Gly Gly His Ala Leu
130 135 140

Gly Asp Gly Gly Leu Leu Gly Asp Gly Leu Gly Asp Asp Gly Leu Gly
145 150 155 160

Leu Gly Gln Ala Asp Pro Leu Ala Val Ala Val Glu Val Ala Ala Gly
165 170 175

Gly Ala Gly Tyr Ala Ala Val Leu Asp Val Leu Leu Ala Val Phe Gly
180 185 190

Gly Gln Asn Gly Phe Val Glu Gly Gly Gly Gly Gly Glu Glu Val Arg
195 200 205

His Arg Arg Gly Gly Gly Gly Val Gly Leu Val Pro Pro Asp Cys Trp
210 215 220

Gly Leu Val Gly Ala Trp Val Ala Pro Gly Ala Pro Gly Leu Leu Gly
225 230 235 240

Ala Gly Arg Gly Trp Thr Ala Ala Pro Gly Arg Arg Val Gly Gly Ala

245 250 255

Ile Gly Gly Leu Ser Leu Pro Pro Cys Ile Thr Ile Lys Ala Arg Arg
260 265 270

Leu Cys Leu Arg Asn Pro Leu His Ser His Phe Thr Asp Cys His Thr
275 280 285

Ser Gly Leu Ala Thr Ala Ala Glu Leu Val Pro Val Gly Val Gly Leu
290 295 300

Val Leu Val Pro Pro Leu Gly Asp Gly Val Pro Pro Ala His Ala Leu
305 310 315 320

Gly Gly Leu Ala Gly Ile Pro Ser Arg Pro Pro Glu Leu Val Val Gly
325 330 335

His Arg Pro Gly Leu Gly Leu Pro Ala Gly Glu Val Gly Ser Gly Gly
340 345 350

Met Val Gly Ala Gly His Gly Arg Gly Gly Gly Gly Gly Glu Gly Gly
355 360 365

Trp Ala Arg Gly Ala Pro Gly Gly Gly Ser Gly Arg Gln Gln Val Val
370 375 380

Pro Ala Asp Arg Gly Gln Asp Val Pro Leu Gly Asn Leu Asp Glu Gly
385 390 395 400

Leu Val Ala Glu Leu Gly Ile Pro Asp Pro Glu Leu Gly Arg Gly Gly
405 410 415

Val Gly Ala Pro Val Ala Gly Gly Ala Gly Gln Pro His Gln Glu Leu
420 425 430

Asp Arg Ala Arg Pro Gly Gln Val Pro Val
435 440

<210> 67
<211> 367
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 4514 right: 5614 frame: -3 size(aa): 367

<400> 67

Ala Ala Pro Arg Arg Pro Pro Gly Pro Ser Pro Leu Pro Pro Thr Ala
1 5 10 15

Thr Pro Thr Met Ser Cys Ala His His Ala Thr Ala Ala Asp Phe Ala
20 25 30

Arg Trp Glu Ala Lys Ala Arg Ser Met Thr Asp Tyr Glu Leu Trp Trp
35 40 45

Ser Ala Arg Asp Ala Arg Gln Ala Ala Glu Arg Met Arg Gly Trp Asn
50 55 60

Pro Val Ala Glu Gly Arg Tyr Glu Asp Glu Ala His Thr Tyr Gly Asp
65 70 75 80

Glu Leu Arg Arg Arg Arg Gln Ala Arg Ser Val Thr Val Cys Glu Val
85 90 95

Ala Met Gln Gly Ile Ala Gln Ala Gln Pro Pro Cys Phe Asn Ser Tyr
100 105 110

Thr Arg Gly Glu Arg Gln Pro Pro Asp Gly Ala Thr His Ala Pro Thr
115 120 125

Arg Gly Ser Ser Pro Ala Pro Thr Arg Pro Gln Gln Ser Gly Gly Thr
130 135 140

Arg Arg His Pro Arg Ala Asp Gln Pro Pro Ala Val Arg Gly His Gln
145 150 155 160

Pro His Pro Thr Ala Thr Pro Pro Met Ser Asp Phe Phe Pro Thr Pro
165 170 175

Thr Thr Leu Asp Glu Ala Val Leu Ala Ala Glu Tyr Ser Gln Gln Asn
180 185 190

Val Glu Tyr Cys Gly Ile Thr Cys Thr Pro Ser Gly Tyr Phe Tyr Cys
195 200 205

His Gly Lys Arg Ile Gly Leu Ala Lys Ala Glu Ala Ile Val Ala Gln
210 215 220

Ala Val Ala Glu Glu Ala Ala Val Ala Glu Gly Met Thr Ala Ala Thr
225 230 235 240

Ala Glu Gln Arg Ala Thr Gln Thr Ile Ser Glu Ala Ala Ala Asp His
245 250 255

Arg Val Asp Pro Ala Ala Gly Cys Arg Thr Ala Ala Pro Gln Thr Gly
260 265 270

Leu Asp Thr Pro Glu Pro Arg Gln Pro Lys Arg Thr Gly Phe Thr Trp
275 280 285

Asp Ala Leu Asn Asp Ala Thr Lys Ala Leu Phe Tyr Arg Val Gly Leu
290 295 300

Val Ile Glu Gln Gln Gly Glu Gly Arg Gly Ala Met Leu Gly Thr Val
305 310 315 320

Leu His Ile Pro Leu Thr Glu Ala Pro Arg Leu Thr Asn Leu Lys Lys
325 330 335

Ala Gly Leu Leu Ala Thr Ile Glu Gly Thr Arg Lys Ser His Arg Val
340 345 350

Leu Val Leu Thr Asp Ala Gly Lys Ala Gln Met Ala Ala Gly Arg
355 360 365

<210> 68
<211> 135
<212> PRT

<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 4698 right: 5102 frame: -1 size(aa): 135

<400> 68

Leu Leu Pro His Pro His His Pro Arg Arg Ser Arg Ser Gly Arg Arg
1 5 10 15

Ile Gln Pro Ala Glu Arg Arg Val Leu Arg His Asn Leu His Pro Gln
20 25 30

Arg Leu Leu Leu Leu Pro Arg Gln Ala Asp Arg Pro Gly Gln Gly Arg
35 40 45

Gly His Arg Arg Pro Gly Arg Arg Arg Gly Gly Arg Arg Arg Arg Gly
50 55 60

His Asp Arg Arg His Arg Arg Ala Ala Gly His Pro Asp His Leu Arg
65 70 75 80

Gly Arg Arg Arg Pro Pro Gly Gly Pro Arg Arg Arg Leu Pro His Arg
85 90 95

Cys Pro Pro Asp Arg Pro Arg His Pro Gly Ala Pro Pro Ala Gln Ala
100 105 110

Asp Arg Leu His Leu Gly Arg Pro Gln Arg Arg His Gln Gly Ala Val
115 120 125

Leu Gln Gly Arg Pro Gly Asp
130 135

<210> 69
<211> 68
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 4702 right: 4905 frame: -2 size(aa): 68

<400> 69

Pro Pro Pro Pro Pro Ser Ser Gly Pro Pro Arg Pro Ser Pro Arg Pro
1 5 10 15

Pro Pro Thr Thr Gly Trp Thr Pro Pro Pro Ala Ala Ala Pro Leu Pro
20 25 30

Pro Arg Pro Ala Ser Thr Pro Arg Ser Pro Ala Ser Pro Ser Gly Pro
35 40 45

Ala Ser Pro Gly Thr Pro Ser Thr Thr Pro Pro Arg Arg Cys Ser Thr
50 55 60

Gly Ser Ala Trp

65

<210> 70
<211> 92
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 4719 right: 4994 frame: 1 size(aa): 92

<400> 70

Asn Ser Ala Leu Val Ala Ser Leu Arg Ala Ser Gln Val Lys Pro Val
1 5 10 15

Arg Leu Gly Trp Arg Gly Ser Gly Val Ser Arg Pro Val Trp Gly Ala
20 25 30

Ala Val Arg Gln Pro Ala Ala Gly Ser Thr Arg Trp Ser Ala Ala Ala
35 40 45

Ser Glu Met Val Trp Val Ala Arg Cys Ser Ala Val Ala Ala Val Met
50 55 60

Pro Ser Ala Thr Ala Ala Ser Ser Ala Thr Ala Trp Ala Thr Met Ala
65 70 75 80

Ser Ala Leu Ala Arg Pro Ile Arg Leu Pro Trp Gln
85 90

<210> 71
<211> 176
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 4759 right: 5286 frame: 2 size(aa): 176

<400> 71

Ser Arg Ser Ala Trp Ala Gly Gly Ala Pro Gly Cys Arg Gly Arg Ser
1 5 10 15

Gly Gly Gln Arg Cys Gly Ser Arg Arg Arg Gly Pro Pro Gly Gly Arg
20 25 30

Arg Arg Pro Arg Arg Trp Ser Gly Trp Pro Ala Ala Arg Arg Trp Arg
35 40 45

Arg Ser Cys Pro Arg Arg Arg Arg Pro Pro Arg Arg Arg Pro Gly Arg
50 55 60

Arg Trp Pro Arg Pro Trp Pro Gly Arg Ser Ala Cys Arg Gly Ser Arg
65 70 75 80

Ser Ser Arg Trp Gly Cys Arg Leu Cys Arg Ser Thr Arg Arg Ser Ala
85 90 95

Gly Cys Ile Arg Arg Pro Glu Arg Leu Arg Arg Gly Trp Trp Gly Trp
100 105 110

Gly Arg Ser Gln Thr Ser Glu Gly Trp Arg Trp Gly Gly Val Gly Ala
115 120 125

Pro Gly Leu Leu Gly Ala Gly Arg Arg Val Gly Gly Ala Trp Cys Pro
130 135 140

Arg Thr Ala Gly Gly Gly Ser Gly Leu Asp Cys Cys Pro Trp Ser Ala
145 150 155 160

Arg Gly Trp Arg His Arg Gly Val Val Ser Pro Pro Leu Tyr Asn Tyr
165 170 175

<210> 72
<211> 92
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 5004 right: 5279 frame: 1 size(aa): 92

<400> 72

Pro Leu Gly Val Gln Val Met Pro Gln Tyr Ser Thr Phe Cys Trp Leu
1 5 10 15

Tyr Ser Ala Ala Arg Thr Ala Ser Ser Arg Val Val Gly Val Gly Lys
20 25 30

Lys Ser Asp Ile Gly Gly Val Ala Val Gly Trp Gly Trp Cys Pro Arg
35 40 45

Thr Ala Gly Gly Trp Ser Ala Arg Gly Trp Arg Leu Val Pro Pro Asp
50 55 60

Cys Trp Gly Arg Val Gly Ala Gly Leu Leu Pro Leu Val Gly Ala Trp
65 70 75 80

Val Ala Pro Ser Gly Gly Cys Leu Ser Pro Leu Val
85 90

<210> 73
<211> 106
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 5023 right: 5340 frame: -2 size(aa): 106

<400> 73

Gln Ser Val Lys Trp Leu Cys Arg Gly Leu Arg Arg His Ser Arg Arg
1 5 10 15

```
Ala Leu Ile Val Ile Gln Gly Gly Arg Asp Asn Pro Pro Met Ala Pro
          20                  25                  30

Pro Thr Arg Arg Pro Gly Ala Ala Val Gln Pro Arg Pro Ala Pro Ser
        35                  40                  45

Ser Pro Gly Ala Pro Gly Ala Thr His Ala Pro Thr Ser Pro Gln Gln
    50                  55                  60

Ser Gly Gly Thr Asn Pro Thr Pro Pro Pro Pro Leu Arg Cys Leu Thr
65                  70                  75                  80

Ser Ser Pro Pro Pro Pro Pro Ser Thr Lys Pro Phe Trp Pro Pro Asn
                85                  90                  95

Thr Ala Ser Arg Thr Ser Ser Thr Ala Ala
          100                 105
```

<210> 74
<211> 59
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 5106 right: 5282 frame: -1 size(aa): 59

<400> 74

```
Leu Tyr Lys Gly Gly Glu Thr Thr Pro Arg Trp Arg His Pro Arg Ala
1               5                   10                  15

Asp Gln Gly Gln Gln Ser Ser Pro Asp Pro Pro Pro Ala Val Arg Gly
          20                  25                  30

His Gln Ala Pro Pro Thr Arg Arg Pro Ala Pro Ser Ser Pro Gly Ala
        35                  40                  45

Pro Thr Pro Pro His Arg His Pro Ser Asp Val
    50                  55
```

<210> 75
<211> 174
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 5326 right: 5847 frame: 2 size(aa): 174

<400> 75

```
Pro Leu His Arg Leu Ser His Phe Gly Pro Gly Asp Gly Gly Gly Ala
1               5                   10                  15

Arg Pro Arg Arg Cys Gly Pro Arg Pro Arg Thr Ala Pro Arg Arg Arg
          20                  25                  30

Gly Ser Thr Arg Ala Cys Ala Arg Arg Pro Gly Gly His Pro Glu Pro
```

35 40 45

Thr Thr Arg Ala Arg Ser Arg Ser Ser Thr Gly Pro Trp Pro Pro Ser
50 55 60

Gly Arg Ser Arg Gln Arg Trp His Gly Gly Arg Arg Thr Trp Ser Gly
65 70 75 80

Trp Arg Trp Gly Gly Gly Gly Met Gly Pro Gly Gly Ala Gly Gly Arg
85 90 95

Leu Arg Pro Ala Ala Gly Arg Pro Gly Arg Ser Gly Ser Gly Arg Pro
100 105 110

Ala Trp Gln Pro Arg Arg Gly Ser Arg Gly Arg Ala Trp His Ser Arg
115 120 125

Pro Gly Thr Trp Pro Arg Trp Cys Gly Arg Pro Ser Ser Arg Gly Cys
130 135 140

Gly Thr Ala Thr Pro Gly Ala Arg Pro Ser Ser Thr Arg Ser Gly Pro
145 150 155 160

Gly Leu Glu Pro Ala Pro Arg Gly Trp Pro Trp Ala Gly Arg
165 170

<210> 76
<211> 186
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 5334 right: 5891 frame: -1 size(aa): 186

<400> 76

Ser Ala Gly Arg Ser Arg Gln Pro Gly Gly Gly Leu Tyr Arg Gln Arg
1 5 10 15

Pro Ala His Gly His Pro Arg Gly Ala Gly Ser Lys Pro Gly Pro Asp
20 25 30

Leu Val Glu Leu Gly Arg Ala Pro Gly Val Ala Val Pro His Pro Arg
35 40 45

Leu Leu Gly Arg Pro His His Leu Gly Gln Val Pro Gly Leu Glu Cys
50 55 60

Gln Ala Arg Pro Arg Asp Pro Arg Arg Gly Cys Gln Ala Gly Arg Pro
65 70 75 80

Asp Pro Asp Leu Pro Gly Arg Pro Ala Ala Gly Leu Ser Arg Pro Pro
85 90 95

Ala Pro Pro Gly Pro Ile Pro Pro Pro Pro His Arg His Pro Asp His
100 105 110

Val Leu Arg Pro Pro Cys His Arg Cys Arg Leu Arg Pro Leu Gly Gly
115 120 125

Gln Gly Pro Val Asp Asp Arg Leu Arg Ala Leu Val Val Gly Ser Gly
130 135 140

Cys Pro Pro Gly Arg Arg Ala His Ala Arg Val Glu Pro Arg Arg Arg
145 150 155 160

Gly Ala Val Arg Gly Arg Gly Pro His Leu Arg Gly Arg Ala Pro Pro
165 170 175

Pro Ser Pro Gly Pro Lys Cys Asp Ser Leu
180 185

<210> 77
<211> 86
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 5487 right: 5744 frame: 1 size(aa): 86

<400> 77

Ser Val Ile Asp Arg Ala Leu Ala Ser Gln Arg Ala Lys Ser Ala Ala
1 5 10 15

Val Ala Trp Trp Ala Gln Asp Met Val Gly Val Ala Val Gly Gly Arg
20 25 30

Gly Asp Gly Pro Gly Gly Arg Arg Gly Ala Ala Gln Ala Gly Ser Arg
35 40 45

Ser Ser Arg Gln Ile Gly Val Arg Thr Ser Arg Leu Ala Thr Ser Thr
50 55 60

Arg Val Ser Trp Pro Ser Leu Ala Phe Gln Thr Arg Asn Leu Ala Glu
65 70 75 80

Val Val Trp Ala Pro Gln
85

<210> 78
<211> 52
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 5494 right: 5649 frame: -2 size(aa): 52

<400> 78

Pro Arg Ser Ala Gly Thr Thr Cys Cys Arg Pro Glu Pro Pro Pro Gly
1 5 10 15

Ala Pro Arg Ala His Pro Pro Ser Pro Pro Pro Pro Pro Arg Pro Cys
20 25 30

Pro Ala Pro Thr Met Pro Pro Leu Pro Thr Ser Pro Ala Gly Arg Pro
35 40 45

Arg Pro Gly Arg
50

<210> 79
<211> 153
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 5618 right: 6076 frame: -3 size(aa): 153

<400> 79

Pro Thr Arg Ala Gly Pro Ser Gly Pro Pro Thr Pro Gly Pro Thr Trp
1 5 10 15

Ala Asp Ser Pro Gly Gly Phe Gly Pro His Pro Asp Pro Gly Arg Ile
20 25 30

Ala Ser Gly Val Phe Pro Cys Phe Asn Ser Gly Thr Gly Ala Glu Cys
35 40 45

Pro Thr Arg Arg Pro Arg Gly Arg Ser Ser Arg Glu Ser Asp Gln Leu
50 55 60

Asp Glu Val Gly Asn Arg Val Ala Gly Phe Thr Val Asn Gly Gln Pro
65 70 75 80

Met Ala Thr His Glu Val Arg Ala Leu Asn Arg Asp Leu Thr Trp Ser
85 90 95

Ser Ser Val Glu Leu Leu Val Trp Leu Ser Arg Thr Pro Gly Tyr Trp
100 105 110

Gly Ala His Thr Thr Ser Ala Lys Phe Arg Val Trp Asn Ala Lys Leu
115 120 125

Gly His Glu Thr Leu Val Glu Val Ala Lys Arg Asp Val Leu Thr Pro
130 135 140

Ile Cys Arg Asp Asp Leu Leu Pro Ala
145 150

<210> 80
<211> 218
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 5812 right: 6465 frame: -2 size(aa): 218

<400> 80

His Pro Arg Trp Trp Leu Arg Cys Glu Gly Ser Pro Lys Arg Pro Ile

1 5 10 15

Gln His Arg Arg His Pro Leu His Arg Gly Gly Arg Pro Arg Pro His
20 25 30

Pro Val Gln Thr Arg Ser Pro His Asp Arg Ser His Arg Gln Ala Asp
35 40 45

Gln Arg Ala Gln Ala His Arg Val Leu Leu Arg Cys Pro Glu Ser Gly
50 55 60

Asp Gln Gly Pro Val Leu Pro Pro Leu Arg Gly Asp Pro Asp Arg His
65 70 75 80

Pro Gly Pro Arg His Asp Cys Arg Arg Pro Pro Gly His Arg Arg Gln
85 90 95

Gly Ala Pro Asp Arg Arg Pro Pro Pro Asp Gln Pro Gln Glu Gly Gly
100 105 110

Pro Pro Gly Asp Arg Arg Gly Arg Glu Glu Val Pro Gln Asp Ala Pro
115 120 125

Pro Asp Arg Arg Gly Pro Gly His Leu Gly Arg Pro His Arg Gly Arg
130 135 140

Pro Gly Leu Ile His Pro Gly Ala Ser Ala Pro Ile Pro Thr Pro Gly
145 150 155 160

Val Leu Arg Pro Gly Phe Phe Arg Ala Leu Ile Val Glu Gln Gly Arg
165 170 175

Asn Ala Pro Leu Asp Gly Pro Gly Ala Ala Pro Leu Val Asn Leu Ile
180 185 190

Ser Trp Thr Lys Ser Ala Thr Gly Trp Arg Ala Leu Pro Ser Thr Ala
195 200 205

Ser Pro Trp Pro Pro Thr Arg Cys Gly Leu
210 215

<210> 81
<211> 69
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 5813 right: 6019 frame: 3 size(aa): 69

<400> 81

Ser Pro His Leu Val Gly Gly His Gly Leu Ala Val Asp Gly Lys Ala
1 5 10 15

Arg His Pro Val Ala Asp Phe Val Gln Leu Ile Arg Phe Thr Arg Gly
20 25 30

Ala Ala Pro Gly Pro Ser Ser Gly Ala Phe Arg Pro Cys Ser Thr Ile
35 40 45

Lys Ala Arg Lys Asn Pro Gly Arg Asn Thr Pro Gly Val Gly Met Gly
50 55 60

Ala Glu Ala Pro Gly
65

<210> 82
<211> 353
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 5892 right: 6950 frame: 1 size(aa): 353

<400> 82

Ser Asp Ser Arg Glu Glu Arg Pro Leu Gly Arg Arg Val Gly His Ser
1 5 10 15

Ala Pro Val Pro Leu Leu Lys His Gly Lys Thr Pro Asp Ala Ile Arg
20 25 30

Pro Gly Ser Gly Trp Gly Pro Lys Pro Pro Gly Glu Ser Ala Gln Val
35 40 45

Gly Pro Gly Val Gly Gly Pro Asp Gly Pro Ala Leu Val Gly Gln Ala
50 55 60

Glu His Leu Val Gly Leu Leu Leu Ala Leu Asp Gly Leu Gln Glu Ala
65 70 75 80

Arg Leu Leu Glu Val Gly Gln Ala Gly Gly Val Gly Gln Gly His Leu
85 90 95

Asp Val Gly Ala Gln Ala Gly Gly Gly Ser His Ala Val Val Pro Gly
100 105 110

Gly Gly Leu Asp Leu Leu Ala Glu Ala Glu Glu Gln Val Leu Gly Arg
115 120 125

Leu Ile Gln Gly Ile Glu Gly Glu Pro Gly Ala Leu Gly Leu Phe Gly
130 135 140

Leu Leu Gly Gly Gly Phe Gly His Gly Gly Phe Glu Phe Gly Leu Asp
145 150 155 160

Val Gly Glu Gly Gly Leu Leu Gly Ala Thr Gly Ala Val Asp Ala Glu
165 170 175

Ser Ala Ala Trp Val Asn Leu His Thr Val Thr Thr Ser Gly Gly Val
180 185 190

Ile Ala Leu Gly Asp Gly Gly Pro Thr Leu Asp Glu Ile Gly Gly Leu
195 200 205

Asn Gly His Gly Trp Arg Gly Gly Gly Asp Arg Val Cys Leu Arg Ser
210 215 220

```
Thr Ser Lys Ala Arg Gly Leu Cys Pro Arg Asn Ser Pro Asn Arg Arg
225                 230                 235                 240

Phe Thr Gly Cys Asn Lys Arg Pro Ala Pro Gly Gly Gly Pro Ala Ala
                245                 250                 255

Ala Ala Gly Arg Arg Arg Arg Pro Ser Arg Arg Pro Pro Ala Ala Ala
            260                 265                 270

Ala Pro Ala Arg Ala Pro Gly Pro Pro Pro His Lys Ala Gly Gly Thr
        275                 280                 285

Gly Arg Gly Arg Ser Gln Ala Gly Ala Gly Arg Arg Pro Gln Thr Arg
    290                 295                 300

Tyr His Pro Pro Ala Cys Ser Ala Trp Arg Arg Ser Thr Thr Pro Pro
305                 310                 315                 320

Ser Arg Ala Trp Pro Pro Arg Arg Ala Arg Gly Pro Gly Ala Gln Ala
                325                 330                 335

Gly Ala Leu Gln Asp Leu Leu Arg Val Pro Pro Ser Pro Ser Ala Ser
            340                 345                 350

Val
```

<210> 83
<211> 106
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 5959 right: 6276 frame: 2 size(aa): 106

<400> 83

```
Ser Thr Glu Lys Pro Arg Thr Gln Tyr Ala Arg Gly Arg Asp Gly Gly
1               5                   10                  15

Arg Ser Pro Arg Val Asn Gln Pro Arg Ser Ala Pro Val Trp Ala Ala
            20                  25                  30

Gln Met Ala Arg Pro Ser Ser Val Arg Arg Ser Ile Leu Trp Asp Phe
        35                  40                  45

Phe Ser Pro Ser Thr Val Ser Arg Arg Pro Ala Phe Leu Arg Leu Val
    50                  55                  60

Arg Arg Gly Ala Ser Val Arg Gly Thr Leu Thr Ser Val Pro Arg Arg
65                  70                  75                  80

Ala Ala Ala Val Met Pro Trp Ser Arg Val Ala Val Trp Ile Ser Ser
                85                  90                  95

Gln Arg Arg Lys Asn Arg Ser Leu Val Ala
            100                 105
```

<210> 84

<211> 185
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 6027 right: 6581 frame: -1 size(aa): 185

<400> 84

Pro Pro Cys Phe Thr Ser Gly Thr Glu Thr Asp Thr Ile Ser Thr Ala
1 5 10 15

Ser Pro Pro Met Thr Val Gln Pro Ala Asp Leu Ile Lys Arg Trp Thr
20 25 30

Thr Val Ala Gln Arg Asp Asn Thr Pro Ala Gly Gly Tyr Gly Val Lys
35 40 45

Val His Pro Ser Gly Arg Phe Ser Ile Asp Gly Thr Arg Cys Thr Glu
50 55 60

Glu Ala Ala Leu Ala His Ile Gln Ser Lys Leu Glu Ala Pro Met Thr
65 70 75 80

Glu Ala Thr Ala Lys Gln Thr Lys Glu Pro Lys Arg Thr Gly Phe Ser
85 90 95

Phe Asp Ala Leu Asn Gln Ala Thr Lys Asp Leu Phe Phe Arg Leu Cys
100 105 110

Glu Glu Ile Gln Thr Ala Thr Arg Asp His Gly Met Thr Ala Ala Ala
115 120 125

Arg Leu Gly Thr Asp Val Lys Val Pro Leu Thr Asp Ala Pro Arg Leu
130 135 140

Thr Asn Leu Lys Lys Ala Gly Leu Leu Glu Thr Val Glu Gly Glu Lys
145 150 155 160

Lys Ser His Lys Met Leu Arg Leu Thr Asp Glu Gly Arg Ala Ile Trp
165 170 175

Ala Ala His Thr Gly Ala Asp Leu Gly
180 185

<210> 85
<211> 78
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 6182 right: 6415 frame: 3 size(aa): 78

<400> 85

Arg Arg Cys Pro Gly Gly Arg Arg Gln Ser Cys Arg Gly Pro Gly Trp
1 5 10 15

Arg Ser Gly Ser Pro Arg Arg Gly Gly Arg Thr Gly Pro Trp Ser Pro
20 25 30

Asp Ser Gly His Arg Arg Arg Thr Arg Cys Ala Trp Ala Leu Trp Ser
35 40 45

Ala Trp Arg Trp Leu Arg Ser Trp Gly Leu Arg Val Trp Thr Gly Cys
50 55 60

Gly Arg Gly Arg Pro Pro Arg Cys Asn Gly Cys Arg Arg Cys
65 70 75

<210> 86
<211> 51
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 6280 right: 6432 frame: 2 size(aa): 51

<400> 86

Phe Arg Ala Ser Lys Glu Asn Pro Val Arg Leu Gly Ser Leu Val Cys
1 5 10 15

Leu Ala Val Ala Ser Val Met Gly Ala Ser Ser Leu Asp Trp Met Trp
20 25 30

Ala Arg Ala Ala Ser Ser Val Gln Arg Val Pro Ser Met Leu Asn Arg
35 40 45

Pro Leu Gly
50

<210> 87
<211> 147
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 6517 right: 6957 frame: 2 size(aa): 147

<400> 87

Thr Val Met Gly Gly Glu Ala Val Glu Ile Val Ser Val Ser Val Pro
1 5 10 15

Leu Val Lys His Gly Gly Tyr Ala Leu Ala Ile Pro Arg Ile Asp Gly
20 25 30

Ser Gln Ala Val Thr Asn Ala Leu Leu Pro Glu Ala Gly Pro Gln Pro
35 40 45

Leu Gln Val Gly Gly Gly Asp Leu Leu Ala Val Leu Gln Pro Leu Gln
50 55 60

```
His Arg Leu Glu Leu Arg Ala Arg Arg Leu Thr Lys Pro Ala Val Gln
65                  70                  75                  80

Val Gly Val Gly Leu Arg Arg Gly Arg Gly Gly Gly Leu Lys Leu Ala
                85                  90                  95

Thr Ile Leu Gln Leu Val Pro His Gly Ala Gly Arg Gln His His Arg
            100                 105                 110

Ala Glu Pro Gly Pro His Asp Glu Leu Val Val Pro Ala Pro Arg Pro
        115                 120                 125

Ala Arg Ser Arg Ile Cys Ser Gly Cys Arg Pro Arg His Arg Pro Leu
    130                 135                 140

Cys Ser Arg
145
```

<210> 88
<211> 71
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 6524 right: 6736 frame: -3 size(aa): 71

<400> 88

```
Gly Gly Gly Pro Gly Ala Arg Ala Gly Ala Ala Ala Ala Gly Gly Arg
1               5                   10                  15

Arg Glu Gly Arg Arg Arg Arg Pro Ala Ala Ala Ala Gly Pro Pro Pro
            20                  25                  30

Gly Ala Gly Arg Leu Leu Gln Pro Val Asn Arg Leu Phe Gly Glu Leu
        35                  40                  45

Arg Gly His Ser Pro Arg Ala Leu Leu Val Glu Arg Arg Gln Thr Arg
    50                  55                  60

Ser Pro Pro Pro Arg His Pro
65                  70
```

<210> 89
<211> 126
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 6585 right: 6962 frame: -1 size(aa): 126

<400> 89

```
Ser Tyr Arg Leu His Arg Gly Arg Trp Arg Gly Arg His Pro Glu Gln
1               5                   10                  15

Ile Leu Glu Arg Ala Gly Leu Gly Ala Gly Thr Thr Ser Ser Ser Trp
```

20 25 30

Gly Pro Gly Ser Ala Arg Trp Cys Cys Arg Pro Ala Pro Cys Gly Thr
35 40 45

Ser Trp Arg Met Val Ala Ser Leu Arg Pro Pro Pro Arg Pro Arg Leu
50 55 60

Arg Pro Thr Pro Thr Cys Thr Ala Gly Phe Val Arg Arg Arg Ala Arg
65 70 75 80

Ser Ser Ser Arg Cys Cys Ser Gly Trp Arg Thr Ala Arg Arg Ser Pro
85 90 95

Pro Pro Thr Cys Ser Gly Cys Gly Pro Ala Ser Gly Ser Arg Ala Phe
100 105 110

Val Thr Ala Cys Glu Pro Ser Ile Arg Gly Ile Ala Arg Ala
115 120 125

<210> 90
<211> 122
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 6616 right: 6981 frame: -2 size(aa): 122

<400> 90

His Leu Arg Pro Lys Ile Ile Leu Pro Thr Thr Gln Arg Pro Met Ala
1 5 10 15

Arg Ala Ala Pro Gly Ala Asp Pro Gly Ala Arg Arg Pro Gly Arg Arg
20 25 30

Asp His Glu Leu Val Val Gly Ala Arg Leu Cys Ser Val Val Leu Ser
35 40 45

Thr Gly Ala Met Arg Asn Lys Leu Glu Asp Gly Ser Glu Phe Glu Ala
50 55 60

Ala Ala Pro Pro Pro Pro Glu Thr Asp Pro Asp Leu Tyr Arg Arg Leu
65 70 75 80

Cys Glu Ala Ala Gly Pro Glu Leu Glu Pro Val Leu Gln Arg Leu Glu
85 90 95

Asp Gly Glu Lys Val Ala Ala Ala Asp Leu Gln Arg Leu Arg Ala Arg
100 105 110

Leu Arg Glu Gln Gly Val Cys Tyr Ser Leu
115 120

<210> 91
<211> 248
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 6626 right: 7369 frame: 3 size(aa): 248

<400> 91

Gln Thr Pro Cys Ser Arg Arg Arg Ala Arg Ser Arg Cys Arg Ser Ala
1 5 10 15

Ala Ala Thr Phe Ser Pro Ser Ser Ser Arg Cys Ser Thr Gly Ser Ser
20 25 30

Ser Gly Pro Ala Ala Ser Gln Ser Arg Arg Tyr Arg Ser Gly Ser Val
35 40 45

Ser Gly Gly Gly Gly Ala Ala Ala Ser Asn Ser Leu Pro Ser Ser Ser
50 55 60

Leu Phe Arg Met Ala Pro Val Asp Asn Thr Thr Glu Gln Ser Leu Ala
65 70 75 80

Pro Thr Thr Ser Ser Trp Ser Arg Arg Pro Gly Arg Arg Ala Pro Gly
85 90 95

Ser Ala Pro Gly Ala Ala Leu Ala Ile Gly Leu Cys Val Val Gly Lys
100 105 110

Ile Ile Leu Gly Arg Lys Cys His Thr Asp Ala Ala Val Asp Lys Val
115 120 125

Asn His Thr Gly Asp Arg Phe Lys Asp Lys Thr His Pro Val Arg Ala
130 135 140

Phe Ile Val Thr Glu Ala Ala Asp Val Glu Leu Gly Gly Thr Leu Gln
145 150 155 160

Ala Asp Asp Pro Leu Leu Glu Gln Val Gly Val Arg Gln Gly Gly Ala
165 170 175

Val Glu Ser Pro Gly Val Val Pro Gly Asp Arg Cys Asp Gln Ala Gln
180 185 190

Val Ala Glu Asp Glu Pro Val Pro Ser Pro Ser Ala Gly Pro Asp Asp
195 200 205

Gly Arg Gly His Arg Leu Arg Val Ser Gln Pro Gly Leu Asp Pro Ala
210 215 220

Pro Gln Glu Asp Phe Leu Pro Ala Ser Glu Glu Gly Val Leu Pro Ser
225 230 235 240

Asp Val Glu Glu Gly Gln Val Val
245

<210> 92
<211> 203
<212> PRT
<213> Cyanophage S-2L

<220>

<221> misc_feature
<223> New ORF = left: 6806 right: 7414 frame: -3 size(aa): 203

<400> 92

Arg Cys Ala Met Val Ala Gln Pro Pro Arg Pro Thr Leu Val Ser Asp
1 5 10 15

Asp Leu Pro Phe Leu Asp Ile Ala Gly Lys Tyr Pro Leu Leu Thr Arg
20 25 30

Arg Glu Glu Ile Leu Leu Gly Arg Arg Ile Gln Ala Trp Leu Thr His
35 40 45

Pro Glu Pro Val Pro Pro Ala Ile Val Arg Ser Gly Arg Arg Ala Arg
50 55 60

Asp Arg Phe Val Leu Cys Asn Leu Arg Leu Val Ala Ser Ile Ala Arg
65 70 75 80

Tyr Tyr Thr Arg Arg Leu Asp Gly Thr Ser Leu Thr Tyr Ala Asp Leu
85 90 95

Leu Gln Glu Gly Val Ile Gly Leu Gln Arg Ser Ala Glu Leu Tyr Ile
100 105 110

Arg Ser Phe Cys Asn Asn Lys Cys Thr His Arg Met Cys Phe Ile Leu
115 120 125

Glu Ser Ile Thr Arg Val Ile Tyr Leu Ile His Gly Ser Ile Gly Met
130 135 140

Thr Leu Thr Ala Gln Asn Asn Leu Thr Asp Tyr Thr Glu Ala Asp Gly
145 150 155 160

Glu Gly Gly Thr Arg Ser Arg Ser Trp Ser Ala Pro Ala Trp Ala Pro
165 170 175

Gly Pro Arg Ala Arg Arg Gly Gly Gln Ala Leu Leu Gly Gly Val Val
180 185 190

Asp Arg Arg His Ala Glu Gln Ala Gly Gly Trp
195 200

<210> 93
<211> 392
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 7068 right: 8243 frame: -1 size(aa): 392

<400> 93

Thr Ala Ser Cys Gly Gln Asp Gln Arg Cys Ala Leu Asp Val Val Ser
1 5 10 15

Phe His Val Phe Arg Ser Ser Thr Pro Ser Ile Ala His Arg Tyr Ile

20 25 30

Gly Arg Thr Pro Pro Arg Glu Arg Thr Trp Ser Arg Ser Pro Trp Arg
35 40 45

Lys Ala Thr Cys Trp Thr Thr Pro Thr Ser Cys Pro Ser Ser Arg Ile
50 55 60

Arg His Ser Trp Asp Gln Ala Ala Pro Gly Gly Ala Ser Pro Arg Gly
65 70 75 80

Pro Ala Cys Ser Arg Tyr Arg Trp Leu Pro Gln Ala Ser Lys Ser Trp
85 90 95

Thr Val Thr Gly Arg Glu Lys Asn Ala Asp Ile Asp Trp Ala Thr Ala
100 105 110

Pro Met Ser Ala Ser Thr Thr Thr Phe Ile Ala Pro Ser Ala Trp Pro
115 120 125

Pro Trp Pro Pro Leu Pro Gly Pro Leu Arg Pro Arg Pro Gly Asp Gly
130 135 140

Ala Thr Trp Pro Pro Arg Ile Arg Ile Arg Ala Gly Ala Ser Arg Arg
145 150 155 160

Ala Ser Pro Gly Thr Arg Gly Ala Pro Gly Ala Pro Pro Trp Pro Gly
165 170 175

Ser Gln Ser Ser Pro Ala Ser Ala Ser Ser Arg Ser Ala Cys Ser Ala
180 185 190

Thr Val Ala Tyr Pro Ala Met Ser Cys Gln Val Ser Cys Cys Ser Gly
195 200 205

Arg Pro Glu Ile Arg Arg Leu Ile Leu Val Ala Ile Trp Ser Arg Ala
210 215 220

Ser Ala Ser Thr Gly Leu Ser Thr Trp Asn Arg Ser Val Leu Arg Met
225 230 235 240

Ala Pro Leu Ile Arg Trp Ala Arg Ala His Cys Ser Arg Ala Gly Pro
245 250 255

Tyr Trp Val Pro Leu Trp Leu Arg Val Arg Ser Arg Ala Phe Gly Ile
260 265 270

Val Gly Gly Ile Ala Leu Cys Tyr Gly Ser Thr Ala Ser Thr Pro His
275 280 285

Pro Gly Val Arg Arg Pro Ala Leu Pro Arg His Arg Trp Glu Val Pro
290 295 300

Pro Pro His Ser Pro Gly Gly Asn Pro Pro Gly Ala Pro Asp Pro Ser
305 310 315 320

Leu Ala Asp Ser Pro Gly Ala Gly Ala Pro Gly His Arg Pro Val Arg
325 330 335

Gln Thr Gly Ser Gly Pro Val Arg Pro Leu Gln Pro Ala Pro Gly Arg
340 345 350

```
Ile Asp Arg Pro Val Leu His Pro Ala Thr Arg Arg His Leu Pro Asp
        355                 360                 365

Val Arg Arg Pro Ala Pro Gly Gly Gly His Arg Pro Ala Ala Phe Arg
    370                 375                 380

Arg Ala Leu His Pro Gln Leu Leu
385                 390
```

<210> 94
<211> 70
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 7114 right: 7323 frame: 2 size(aa): 70

<400> 94

```
Pro Pro Pro Gly Ala Gly Arg Arg Thr Ser Gly Arg Cys Arg Arg Val
1               5                   10                  15

Ala Gly Cys Ser Thr Gly Arg Ser Met Arg Pro Gly Ala Gly Cys Arg
            20                  25                  30

Gly Arg Thr Gly Pro Glu Pro Val Cys Arg Thr Gly Arg Trp Pro Gly
        35                  40                  45

Ala Pro Ala Pro Gly Glu Ser Ala Arg Leu Gly Ser Gly Ala Pro Gly
    50                  55                  60

Gly Phe Pro Pro Gly Glu
65                  70
```

<210> 95
<211> 96
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 7275 right: 7562 frame: 1 size(aa): 96

<400> 95

```
Val Ser Gln Ala Trp Ile Arg Arg Pro Arg Arg Ile Ser Ser Arg Arg
1               5                   10                  15

Val Arg Arg Gly Tyr Phe Pro Ala Met Ser Arg Lys Gly Arg Ser Ser
            20                  25                  30

Asp Thr Arg Val Gly Arg Gly Gly Cys Ala Thr Ile Ala Gln Arg Tyr
        35                  40                  45

Ala Thr His Asn Ala Glu Cys Pro Arg Thr Asp Pro Gln Pro Glu Gly
    50                  55                  60
```

His Pro Val Arg Pro Ser Pro Gly Ala Val Gly Pro Arg Pro Ala Asp
65 70 75 80

Gln Gly Cys His Ala Gln His Arg Ala Ile Pro Arg Ala Glu Pro Gly
85 90 95

<210> 96
<211> 60
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 7373 right: 7552 frame: 3 size(aa): 60

<400> 96

His Gln Gly Gly Ala Trp Arg Leu Cys Tyr His Ser Thr Ala Leu Cys
1 5 10 15

His Pro Gln Cys Arg Met Pro Ser Asn Gly Pro Ser Thr Arg Gly Ala
20 25 30

Pro Ser Thr Ala Gln Pro Gly Ser Ser Gly Pro Ser Pro Ser Gly Ser
35 40 45

Arg Val Pro Cys Ala Ala Pro Ser Asp Ser Thr Cys
50 55 60

<210> 97
<211> 268
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 7402 right: 8205 frame: -2 size(aa): 268

<400> 97

Cys Arg Leu Val Ser Cys Leu Pro Val Leu Tyr Ser Gln His Ser Thr
1 5 10 15

Gln Ile His Arg Thr His Pro Thr Pro Gly Ala Asp Leu Glu Pro Val
20 25 30

Ala Leu Ala Glu Ser Asp Leu Leu Asp Asp Ala Asp Gln Leu Pro Val
35 40 45

Lys Gln Asp Pro Pro Leu Leu Gly Pro Gly Arg Thr Arg Trp Gly Val
50 55 60

Ala Gln Gly Ala Arg Met Leu Gln Val Gln Val Val Ala Pro Gly Leu
65 70 75 80

Gln Val Leu Asp Arg Asp Gly Ala Arg Glu Glu Arg Arg His Arg Leu
85 90 95

Gly Asp Gly Ala His Glu Arg Val Tyr Asp His Leu His Arg Ala Leu

100 105 110

Arg Leu Ala Ala Leu Ala Ala Ser Ala Arg Ala Ala Ala Ala Ser Ala
115 120 125

Trp Arg Arg Arg His Leu Ala Ala Ser Asp Ser Tyr Pro Gly Arg Arg
130 135 140

Ile Ser Ala Ser Val Ser Arg Tyr Pro Gly Gly Ser Gly Ser Pro Ala
145 150 155 160

Leu Ala Arg Ile Ser Val Gln Ser Cys Ile Gly Leu Leu Ala Gln Arg
165 170 175

Leu Leu Gly His Gly Gly Ile Pro Gly Asp Val Val Pro Gly Val Val
180 185 190

Leu Leu Gly Gln Ala Arg Asp Gln Ala Ala Asn Leu Gly Gly Asp Leu
195 200 205

Val Gln Gly Leu Gly Leu Asn Arg Ala Gln His Val Glu Ser Leu Gly
210 215 220

Ala Ala His Gly Thr Leu Asp Pro Leu Gly Glu Gly Pro Leu Leu Pro
225 230 235 240

Gly Trp Ala Val Leu Gly Ala Pro Leu Val Glu Gly Pro Phe Glu Gly
245 250 255

Ile Arg His Cys Gly Trp His Ser Ala Val Leu Trp
260 265

<210> 98
<211> 101
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 7408 right: 7710 frame: 2 size(aa): 101

<400> 98

His Ser Ala Met Pro Pro Thr Met Pro Asn Ala Leu Glu Arg Thr Leu
1 5 10 15

Asn Gln Arg Gly Thr Gln Tyr Gly Pro Ala Arg Glu Gln Trp Ala Leu
20 25 30

Ala Gln Arg Ile Lys Gly Ala Met Arg Ser Thr Glu Arg Phe His Val
35 40 45

Leu Ser Pro Val Glu Ala Glu Ala Leu Asp Gln Ile Ala Thr Lys Ile
50 55 60

Ser Arg Leu Ile Ser Gly Leu Pro Glu Gln His Asp Thr Trp His Asp
65 70 75 80

Ile Ala Gly Tyr Ala Thr Val Ala Glu Gln Ala Leu Arg Glu Glu Ala
85 90 95

Asp Ala Gly Leu Asp
100

<210> 99
<211> 100
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 7601 right: 7900 frame: -3 size(aa): 100

<400> 99

Ala Arg Leu Arg Pro Pro Ser Ser Arg Pro Pro Leu Gly Arg Leu Gly
1 5 10 15

Arg Leu Cys Pro Gly Arg Cys Gly Leu Gly Leu Glu Thr Ala Pro Leu
20 25 30

Gly Arg Leu Gly Phe Val Ser Gly Pro Ala His Leu Gly Glu Arg Leu
35 40 45

Pro Val Pro Gly Gly Leu Arg Glu Pro Arg Pro Gly Gln Asp Leu Ser
50 55 60

Pro Val Leu His Arg Pro Pro Arg Ala Ala Pro Ala Arg Pro Arg Trp
65 70 75 80

His Thr Arg Arg Cys Arg Ala Arg Cys Arg Ala Ala Arg Ala Gly Gln
85 90 95

Arg Ser Gly Gly
100

<210> 100
<211> 153
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 7602 right: 8060 frame: 1 size(aa): 153

<400> 100

Pro Pro Asp Leu Trp Pro Ala Arg Ala Ala Arg His Leu Ala Arg His
1 5 10 15

Arg Arg Val Cys His Arg Gly Arg Ala Gly Ala Ala Arg Gly Gly Arg
20 25 30

Cys Arg Thr Gly Leu Arg Ser Trp Pro Gly Arg Gly Ser Arg Ser Pro
35 40 45

Pro Gly Thr Gly Arg Arg Ser Pro Arg Cys Ala Gly Pro Asp Thr Asn
50 55 60

```
Pro Arg Arg Pro Ser Gly Ala Val Ser Arg Pro Arg Pro Gln Arg Pro
65                  70                  75                  80

Gly Gln Arg Arg Pro Arg Arg Pro Ser Gly Gly Arg Asp Glu Gly Gly
                85                  90                  95

Arg Arg Arg Ala His Gly Arg Arg Arg Pro Val Asp Val Gly Val Leu
            100                 105                 110

Leu Ala Pro Arg His Gly Pro Arg Leu Gly Gly Leu Gly Gln Pro Pro
        115                 120                 125

Val Pro Gly Ala Cys Gly Pro Pro Gly Arg Arg Pro Thr Gly Cys Gly
    130                 135                 140

Leu Val Pro Gly Val Ala Asp Pro Ala
145                 150
```

<210> 101
<211> 90
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 7610 right: 7879 frame: 3 size(aa): 90

<400> 101

```
Ser Leu Ala Cys Pro Ser Ser Thr Thr Pro Gly Thr Thr Ser Pro Gly
1               5                   10                  15

Met Pro Pro Trp Pro Ser Arg Arg Cys Ala Arg Arg Pro Met Gln Asp
            20                  25                  30

Trp Thr Glu Ile Leu Ala Arg Ala Gly Leu Pro Glu Pro Pro Gly Tyr
        35                  40                  45

Arg Glu Thr Leu Ala Glu Met Arg Arg Pro Gly Tyr Glu Ser Glu Ala
    50                  55                  60

Ala Lys Trp Arg Arg Leu Gln Ala Glu Ala Ala Ala Ala Arg Ala Glu
65                  70                  75                  80

Ala Ala Lys Ala Ala Lys Arg Arg Ala Arg
                85                  90
```

<210> 102
<211> 159
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 7714 right: 8190 frame: 2 size(aa): 159

<400> 102

```
Asp Pro Gly Gln Gly Gly Ala Pro Gly Ala Pro Arg Val Pro Gly Asp
```

1 5 10 15

Ala Arg Arg Asp Ala Pro Ala Arg Ile Arg Ile Arg Gly Gly Gln Val
20 25 30

Ala Pro Ser Pro Gly Arg Gly Arg Ser Gly Pro Gly Arg Gly Gly Gln
35 40 45

Gly Gly Gln Ala Glu Gly Ala Met Lys Val Val Val Asp Ala Leu Met
50 55 60

Gly Ala Val Ala Gln Ser Met Ser Ala Phe Phe Ser Arg Pro Val Thr
65 70 75 80

Val Gln Asp Leu Glu Ala Trp Gly Asn His Leu Tyr Leu Glu His Ala
85 90 95

Gly Pro Leu Gly Asp Ala Pro Pro Gly Ala Ala Trp Ser Gln Glu Trp
100 105 110

Arg Ile Leu Leu Asp Gly Gln Leu Val Gly Val Val Gln Gln Val Ala
115 120 125

Phe Arg Gln Gly Asp Arg Leu Gln Val Arg Ser Arg Gly Gly Val Arg
130 135 140

Pro Met Tyr Leu Cys Ala Met Leu Gly Val Glu Asp Arg Lys Thr
145 150 155

<210> 103
<211> 93
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 7895 right: 8173 frame: 3 size(aa): 93

<400> 103

Thr Arg Ser Trp Ala Pro Ser Pro Ser Arg Cys Arg Arg Ser Ser Arg
1 5 10 15

Ala Pro Ser Arg Ser Lys Thr Trp Arg Pro Gly Ala Thr Thr Cys Thr
20 25 30

Trp Ser Met Arg Ala Pro Trp Ala Thr Pro His Arg Val Arg Pro Gly
35 40 45

Pro Arg Ser Gly Gly Ser Cys Leu Thr Gly Ser Trp Ser Ala Ser Ser
50 55 60

Ser Arg Ser Leu Ser Ala Arg Ala Thr Gly Ser Arg Ser Ala Pro Gly
65 70 75 80

Val Gly Cys Val Arg Cys Ile Cys Val Leu Cys Trp Glu
85 90

<210> 104
<211> 70

<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 7952 right: 8161 frame: -3 size(aa): 70

<400> 104

His Thr Asp Thr Ser Asp Ala Pro His Pro Gly Ser Gly Pro Gly Ala
1 5 10 15

Gly Arg Pro Gly Gly Lys Arg Pro Ala Gly Arg Arg Arg Pro Ala Ala
20 25 30

Arg Gln Ala Gly Ser Ala Thr Pro Gly Thr Arg Pro His Pro Val Gly
35 40 45

Arg Arg Pro Gly Gly Pro His Ala Pro Gly Thr Gly Gly Cys Pro Arg
50 55 60

Pro Pro Ser Leu Gly Pro
65 70

<210> 105
<211> 100
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 8064 right: 8363 frame: 1 size(aa): 100

<400> 105

Arg Ala Ala Gly Arg Arg Arg Pro Ala Gly Arg Phe Pro Pro Gly Arg
1 5 10 15

Pro Ala Pro Gly Pro Leu Pro Gly Trp Gly Ala Ser Asp Val Ser Val
20 25 30

Cys Tyr Ala Gly Ser Arg Gly Pro Glu Asp Met Lys Arg Asp Asp Ile
35 40 45

Lys Gly Ala Pro Leu Ile Leu Ala Thr Gly Arg Gly Leu Pro Pro Asp
50 55 60

Pro Asn Glu Pro Pro Lys Gly Asp Leu Ala Ala Trp Ala Ala Tyr His
65 70 75 80

Gly Ile Glu Tyr Val Asn Arg Ala Glu Glu Pro Pro Ala Pro Gly Glu
85 90 95

Glu Pro Arg Gly
100

<210> 106
<211> 70
<212> PRT

<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 8177 right: 8386 frame: 3 size(aa): 70

<400> 106

Arg Thr Gly Arg His Glu Thr Arg Arg His Gln Gly Arg Thr Ala Asp
1 5 10 15

Pro Gly His Arg Thr Arg Ser Thr Pro Arg Pro Glu Arg Ala Ala Gln
20 25 30

Gly Arg Pro Gly Arg Leu Gly Arg Leu Pro Arg His Arg Val Arg Gln
35 40 45

Pro Gly Gly Gly Ala Thr Gly Thr Trp Arg Arg Thr Thr Arg Val Asn
50 55 60

Ala Pro Ser Ala Leu Gly
65 70

<210> 107
<211> 89
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 8224 right: 8490 frame: 2 size(aa): 89

<400> 107

Ser Trp Pro Gln Asp Ala Val Tyr Pro Pro Thr Arg Thr Ser Arg Pro
1 5 10 15

Arg Ala Thr Trp Pro Pro Gly Pro Pro Thr Thr Ala Ser Ser Thr Ser
20 25 30

Thr Gly Arg Arg Ser His Arg His Leu Ala Lys Asn His Ala Gly Glu
35 40 45

Arg Ala Leu Ser Leu Gly Leu Ile Pro Thr Cys Ala Leu Gly Arg Gly
50 55 60

Gly Pro Phe Leu Asp Ala Asp His Leu Val Ala Asp Pro Leu Arg His
65 70 75 80

Glu His Leu Glu Leu Val Val Glu Leu
85

<210> 108
<211> 95
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature

<223> New ORF = left: 8247 right: 8531 frame: -1 size(aa): 95

<400> 108

Ser Arg Thr Thr Ser Thr Ala Ser Pro Ser Pro Ala Cys Gln Ser Ser
1 5 10 15

Thr Thr Ser Ser Arg Cys Ser Cys Arg Arg Gly Ser Ala Thr Arg Trp
20 25 30

Ser Ala Ser Arg Lys Gly Pro Pro Arg Pro Arg Ala Gln Val Gly Ile
35 40 45

Ser Pro Arg Leu Arg Ala Arg Ser Pro Ala Trp Phe Phe Ala Arg Cys
50 55 60

Arg Trp Leu Leu Arg Pro Val Asp Val Leu Asp Ala Val Val Gly Gly
65 70 75 80

Pro Gly Gly Gln Val Ala Leu Gly Arg Leu Val Arg Val Gly Gly
85 90 95

<210> 109
<211> 656
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 8320 right: 10287 frame: -2 size(aa): 656

<400> 109

Ala Gly Ser Ser Arg Pro Thr Ser Arg Pro Pro Ala Ala Ser Ser Arg
1 5 10 15

Ser Ser Arg Arg Cys Pro Pro Ala Gly Ser Ser Gly Ser Ala Pro Glu
20 25 30

Pro Asp Ala Arg Arg His Pro Gly Pro Gly Gly Arg Arg Arg Arg Pro
35 40 45

Asp Arg Arg Arg Ala Ala Pro Gly Pro Gly Pro Gly Val Leu Arg Gly
50 55 60

Ala Gly Ala Gly Arg His Leu Pro Ala Gly Arg Arg Gly Asp Pro Gly
65 70 75 80

Gly Arg Cys Gly Val Asp Gly Leu Ser Val Gly Val Gly Gly Val Thr
85 90 95

Val Thr Pro Gln Gln Leu Val Ala Val Ala Arg Asp Thr Gly Phe Arg
100 105 110

Thr Phe Pro Gly Leu Leu Arg Lys Ala Ser Gly Gln Pro Tyr Thr Ile
115 120 125

Gly Thr Ala Thr Ala Ala Phe Gln Gln Gly Gln Thr Lys Leu Ile Glu
130 135 140

Ala Arg Leu Arg Glu Gly Phe Leu Leu Ser Lys Ser Asn Ser Glu Ile
145 150 155 160

Val Ala Asp Val Arg Thr Ala Met Ala Thr Ala Asn Arg Arg Gln Val
165 170 175

Glu Ala Leu Val Arg Thr Ser Met Ala Gln Ala Ser Gln Thr Ala His
180 185 190

Asp Ala Phe Asn Glu Ala Asn Glu Asp Val Leu Gly Asp Lys Asp Gly
195 200 205

Asn Arg Tyr Ile Trp Asp Ala Ser Asn Asp Gly Arg Leu Cys Pro Val
210 215 220

Cys Ala Pro Leu Asp Gly Thr Arg Tyr Lys Glu Arg Lys Lys Ala Pro
225 230 235 240

Trp Pro Ala His Trp Asn Glu Arg Cys Arg Ile Leu Pro Leu Thr Pro
245 250 255

Leu Ser Asp Thr Leu Gly Ala Leu Pro Glu Thr Tyr Leu Glu Gln Val
260 265 270

Pro Val Gln Tyr Asp Ala Lys Gly Lys Arg Leu Pro Pro Pro Ala Gly
275 280 285

Trp Thr Gly Glu Ala Ala Tyr Lys Thr Pro Arg Lys Ile Asn Gly Gln
290 295 300

Gln Tyr Trp Val Arg Arg Arg Asp Asn Pro Gly Gly Thr Val Gly Ala
305 310 315 320

Met Leu Gln Arg Ser Asn Asp Glu Thr Ala Gln Ala Val Leu Gly Thr
325 330 335

Lys Ala Arg Leu Ala Arg Phe Arg Lys Leu Thr Gly Pro Lys Gly Lys
340 345 350

Tyr Val Lys Asp Pro Gln Gly Ala Val Val Glu Leu Leu Arg Pro Gly
355 360 365

Ser Val Lys Lys Pro Ala Pro Pro Pro Lys Pro Lys Pro Lys Pro Lys
370 375 380

Ala Pro Lys Pro Val Val Ala Pro Pro Leu Val Gln Pro Ala Pro Val
385 390 395 400

Ala Pro Pro Pro Ala Pro Ala Pro Pro Val Val Thr Arg Ala Pro Arg
405 410 415

Arg Ala Arg Pro Ala Pro Ala Pro Ala Pro Ala Pro Pro Ala Pro Pro
420 425 430

Arg Leu Tyr Ser Glu Val Arg Ala Arg Arg Asn Ser Asp Thr Thr Thr
435 440 445

Asp Ile Lys His Lys Tyr Arg Thr Lys His Arg Ala Val Val Arg Asp
450 455 460

Trp Thr Gly Ser Gly Tyr Thr Glu Ile Arg Thr Ala Gln Val Lys Ala
465 470 475 480

Ala Gln Ala Arg Gly Met Asp Leu Thr Asp Phe Gly Lys Gln Met Ala
485 490 495

Arg Lys Gln Met Ser Asp Asp Arg Leu Ala Asp Leu Leu Asp Lys Ala
500 505 510

Asp Arg Leu Glu Asp Phe Ile Thr Thr Ala Pro Val Tyr Lys Gly Gly
515 520 525

Pro Thr Tyr Arg Gly Met Arg Tyr His Ser Lys Ala Ala Ile Glu Glu
530 535 540

Asp Ile Arg Arg Ile Arg Ala Gly Glu Pro Ser Ile Thr Leu Glu Ser
545 550 555 560

Trp Thr Thr Asp Glu Ser Val Ser Tyr Arg Phe Asn Ala Leu Tyr Arg
565 570 575

Lys Asp Arg Tyr Ser Val Thr Tyr Val Val Glu Asp Asn Leu His Gly
580 585 590

Val Pro Ile Ser Ser Met Ser Lys Phe Asp Asp Glu Leu Glu Val Leu
595 600 605

Met Pro Glu Gly Val Arg Tyr Glu Val Val Arg Ile Glu Glu Gly Ala
610 615 620

Thr Pro Ala Lys Ser Ala Gly Gly Tyr Gln Pro Lys Ala Glu Gly Ala
625 630 635 640

Phe Thr Arg Val Val Leu Arg Gln Val Pro Val Ala Pro Pro Pro Gly
645 650 655

<210> 110
<211> 144
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 8378 right: 8809 frame: -3 size(aa): 144

<400> 110

Ala Asp Gly Gln Glu Ala Asp Val Arg Arg Pro Ala Gly Arg Pro Thr
1 5 10 15

Arg Gln Gly Arg Pro Ala Arg Gly Leu His His Asp Gly Ala Arg Leu
20 25 30

Gln Arg Arg Pro Asp Leu Pro Gly His Ala Leu Pro Gln Gln Ser Gly
35 40 45

His Arg Gly Gly His Pro Pro His Pro Ser Arg Gly Ala Val Asp His
50 55 60

Ala Gly Lys Leu Asp His Arg Arg Val Gly Val Leu Pro Val Gln Arg

65 70 75 80

Pro Val Pro Gln Gly Pro Val Leu Gly Asp Ile Arg Ser Arg Gly Gln
85 90 95

Pro Pro Arg Arg Pro His Leu Gln His Val Lys Val Arg Arg Arg Ala
100 105 110

Arg Gly Ala His Ala Gly Gly Gly Pro Leu Arg Gly Gly Pro His Arg
115 120 125

Gly Arg Gly His Pro Gly Gln Glu Arg Arg Trp Val Ser Ala Gln Gly
130 135 140

<210> 111
<211> 90
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 8494 right: 8763 frame: 2 size(aa): 90

<400> 111

His Ala Gly Asp Gly Asp Ala Val Glu Val Val Leu Asp Tyr Val Cys
1 5 10 15

His Arg Val Pro Val Leu Ala Val Gln Gly Val Glu Pro Val Gly His
20 25 30

Arg Leu Val Gly Gly Pro Ala Phe Gln Arg Asp Arg Arg Leu Pro Gly
35 40 45

Ser Asp Ala Ala Asp Val Leu Leu Asp Gly Arg Phe Ala Val Val Ala
50 55 60

His Ala Pro Val Gly Arg Ala Ala Phe Val Asp Gly Arg Arg Arg Asp
65 70 75 80

Glu Val Leu Glu Pro Val Gly Leu Val Glu
85 90

<210> 112
<211> 93
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 8544 right: 8822 frame: -1 size(aa): 93

<400> 112

Pro Ile Leu Val Ser Arg Trp Pro Gly Ser Arg Cys Pro Thr Thr Gly
1 5 10 15

Trp Gln Thr Tyr Ser Thr Arg Pro Thr Gly Ser Arg Thr Ser Ser Arg
20 25 30

Arg Arg Pro Ser Thr Lys Ala Ala Arg Pro Thr Gly Ala Cys Ala Thr
35 40 45

Thr Ala Lys Arg Pro Ser Arg Arg Thr Ser Ala Ala Ser Glu Pro Gly
50 55 60

Ser Arg Arg Ser Arg Trp Lys Ala Gly Pro Pro Thr Ser Arg Cys Pro
65 70 75 80

Thr Gly Ser Thr Pro Cys Thr Ala Arg Thr Gly Thr Arg
85 90

<210> 113
<211> 54
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 8717 right: 8878 frame: 3 size(aa): 54

<400> 113

Thr Gly Ala Val Val Met Lys Ser Ser Ser Arg Ser Ala Leu Ser Ser
1 5 10 15

Arg Ser Ala Ser Arg Ser Ser Asp Ile Cys Phe Leu Ala Ile Cys Leu
20 25 30

Pro Lys Ser Val Arg Ser Met Pro Arg Ala Trp Ala Ala Phe Thr Trp
35 40 45

Ala Val Arg Ile Ser Val
50

<210> 114
<211> 67
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 8736 right: 8936 frame: 1 size(aa): 67

<400> 114

Ser Pro Arg Ala Gly Arg Pro Cys Arg Val Gly Leu Pro Ala Gly Arg
1 5 10 15

Arg Thr Ser Ala Ser Trp Pro Ser Ala Tyr Gln Asn Arg Ser Asp Pro
20 25 30

Cys Pro Gly Pro Gly Arg Pro Ser Pro Gly Arg Cys Gly Ser Arg Cys
35 40 45

Asn Gln Ser Arg Ser Ser Arg Ala Arg Arg Pro Gly Ala Trp Cys Gly
50 55 60

Thr Cys Ala
65

<210> 115
<211> 436
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 8767 right: 10074 frame: 2 size(aa): 436

<400> 115

Val Cys Gln Pro Val Val Gly His Leu Leu Pro Gly His Leu Leu Thr
1 5 10 15

Lys Ile Gly Gln Ile His Ala Pro Gly Leu Gly Gly Leu His Leu Gly
20 25 30

Gly Ala Asp Leu Gly Val Thr Arg Ala Gly Pro Val Ala His Asp Gly
35 40 45

Pro Val Leu Gly Ala Val Leu Val Leu Asp Val Gly Cys Gly Val Ala
50 55 60

Ile Thr Thr Gly Thr His Leu Arg Ile Gln Pro Gly Arg Cys Arg Arg
65 70 75 80

Cys Gly Gly Arg Gly Trp Gly Arg Ala Gly Thr Thr Trp Arg Pro Gly
85 90 95

Asp His Gly Arg Gly Arg Ser Arg Arg Arg Gly His Trp Cys Gly Leu
100 105 110

Asp Gln Trp Arg Gly His Asp Gly Leu Arg Ser Leu Gly Leu Arg Leu
115 120 125

Gly Leu Arg Arg Arg Gly Gly Leu Leu Asp Thr Ala Gly Pro Gln Glu
130 135 140

Leu Asp His Gly Pro Leu Gly Ile Leu Asp Val Leu Ala Leu Gly Ala
145 150 155 160

Gly Gln Leu Pro Glu Pro Gly Gln Ala Gly Leu Gly Ala Glu His Arg
165 170 175

Leu Gly Gly Phe Val Val Gly Pro Leu Gln His Arg Pro Asp Gly Ala
180 185 190

Pro Gly Val Val Pro Ala Pro Asp Pro Ile Leu Leu Ala Val Asp Leu
195 200 205

Thr Gly Arg Leu Val Gly Gly Leu Pro Gly Pro Ala Gly Arg Arg Gly
210 215 220

Gln Ser Phe Ala Leu Gly Val Val Leu His Arg His Leu Phe Glu Val
225 230 235 240

Gly Leu Arg Gln Gly Ala Gln Gly Val Ala Gln Arg Gly Glu Arg Gln

245 250 255

Asp Pro Ala Pro Leu Val Pro Val Gly Arg Pro Gly Gly Leu Leu Ala
260 265 270

Leu Leu Val Pro Gly Ala Val Glu Arg Gly Ala His Arg Ala Glu Pro
275 280 285

Ala Val Val Ala Gly Val Pro Asp Val Ala Val Ala Val Leu Val Ser
290 295 300

Gln Asp Val Leu Val Gly Leu Val Glu Cys Val Met Arg Arg Leu Ala
305 310 315 320

Gly Leu Gly His Arg Arg Thr Asp Gln Gly Phe His Leu Pro Ala Val
325 330 335

Gly Arg Gly His Arg Arg Pro Asp Val Gly Asp Asp Leu Gly Val Gly
340 345 350

Phe Gly Gln Glu Glu Ala Leu Pro Glu Pro Gly Leu Asp Gln Leu Arg
355 360 365

Leu Pro Leu Leu Glu Cys Ser Gly Arg Arg Ala Asp Gly Val Gly Leu
370 375 380

Ala Arg Arg Leu Pro Glu Glu Pro Arg Glu Cys Pro Glu Ala Arg Ile
385 390 395 400

Pro Gly Asp Gly His Gln Leu Leu Arg Gly Asp Arg Asp Ala Pro Asp
405 410 415

Ala His Arg Glu Ala Val Asp Ala Ala Thr Ala Thr Gly Val Ala Pro
420 425 430

Thr Ala Arg Arg
435

<210> 116
<211> 131
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 8856 right: 9248 frame: -1 size(aa): 131

<400> 116

Pro Ala Pro Arg Ala Ser Thr Ser Arg Ile Pro Arg Gly Pro Trp Ser
1 5 10 15

Ser Ser Cys Gly Pro Ala Val Ser Arg Ser Pro Pro Arg Leu Arg Ser
20 25 30

Pro Ser Arg Ser Pro Arg Leu Arg Ser Pro Ser Trp Pro Leu His Trp
35 40 45

Ser Ser Pro His Gln Trp Pro Arg Arg Arg Leu Arg Pro Leu Pro Trp
50 55 60

```
Ser Pro Gly Arg His Val Val Pro Ala Arg Pro Gln Pro Arg Pro Pro
65                  70                  75                  80

His Arg Arg His Arg Pro Gly Cys Ile Leu Arg Cys Val Pro Val Val
                85                  90                  95

Ile Ala Thr Pro Gln Pro Thr Ser Ser Thr Ser Thr Ala Pro Ser Thr
            100                 105                 110

Gly Pro Ser Cys Ala Thr Gly Pro Ala Leu Val Thr Pro Arg Ser Ala
        115                 120                 125

Pro Pro Arg
    130
```

<210> 117
<211> 174
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 8882 right: 9403 frame: 3 size(aa): 174

<400> 117

```
Pro Glu Pro Val Gln Ser Arg Thr Thr Ala Arg Cys Leu Val Arg Tyr
1               5                   10                  15

Leu Cys Leu Met Ser Val Val Val Ser Leu Leu Arg Arg Ala Arg Thr
            20                  25                  30

Ser Glu Tyr Ser Leu Gly Gly Ala Gly Gly Ala Gly Ala Gly Ala Gly
        35                  40                  45

Ala Gly Arg Ala Arg Arg Gly Ala Arg Val Thr Thr Gly Gly Ala Gly
    50                  55                  60

Ala Gly Gly Gly Ala Thr Gly Ala Gly Trp Thr Asn Gly Gly Ala Thr
65                  70                  75                  80

Thr Gly Phe Gly Ala Leu Gly Phe Gly Leu Gly Phe Gly Gly Gly Ala
                85                  90                  95

Gly Phe Leu Thr Leu Pro Gly Arg Arg Ser Ser Thr Thr Ala Pro Trp
            100                 105                 110

Gly Ser Leu Thr Tyr Leu Pro Leu Gly Pro Val Ser Phe Arg Asn Arg
        115                 120                 125

Ala Arg Arg Ala Leu Val Pro Ser Thr Ala Trp Ala Val Ser Ser Leu
    130                 135                 140

Asp Arg Cys Ser Ile Ala Pro Thr Val Pro Pro Gly Leu Ser Arg Arg
145                 150                 155                 160

Arg Thr Gln Tyr Cys Trp Pro Leu Ile Leu Arg Gly Val Leu
                165                 170
```

<210> 118
<211> 136
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 8981 right: 9388 frame: -3 size(aa): 136

<400> 118

Asp Gln Arg Pro Ala Val Leu Gly Pro Ala Pro Gly Gln Pro Arg Gly
1 5 10 15

His Arg Arg Gly Asp Ala Ala Ala Val Gln Arg Arg Asn Arg Pro Gly
20 25 30

Gly Ala Arg His Gln Gly Pro Pro Gly Pro Val Pro Glu Ala Asp Arg
35 40 45

Pro Gln Gly Gln Val Arg Gln Gly Ser Pro Gly Gly Arg Gly Arg Ala
50 55 60

Pro Ala Ala Arg Gln Cys Gln Glu Ala Arg Pro Ala Ser Glu Ala Gln
65 70 75 80

Ala Glu Ala Gln Gly Ser Glu Ala Arg Arg Gly Pro Ser Ile Gly Pro
85 90 95

Ala Arg Thr Ser Gly Pro Ala Ala Gly Ser Gly Pro Ser Arg Gly His
100 105 110

Pro Gly Ala Thr Ser Cys Pro Pro Gly Pro Ser Pro Gly Pro Arg Thr
115 120 125

Ala Gly Thr Ala Gln Ala Val Phe
130 135

<210> 119
<211> 52
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 9228 right: 9383 frame: 1 size(aa): 52

<400> 119

Arg Thr Cys Pro Trp Gly Arg Ser Ala Ser Gly Thr Gly Pro Gly Gly
1 5 10 15

Pro Trp Cys Arg Ala Pro Pro Gly Arg Phe Arg Arg Trp Thr Ala Ala
20 25 30

Ala Ser Pro Arg Arg Cys Pro Arg Gly Cys Pro Gly Ala Gly Pro Asn
35 40 45

Thr Ala Gly Arg

50

<210> 120
<211> 88
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 9252 right: 9515 frame: -1 size(aa): 88

<400> 120

Ala Thr Pro Trp Ala Pro Cys Arg Arg Pro Thr Ser Asn Arg Cys Arg
1 5 10 15

Cys Ser Thr Thr Pro Arg Ala Asn Asp Cys Pro Arg Arg Pro Ala Gly
20 25 30

Pro Gly Arg Pro Pro Thr Arg Arg Pro Val Arg Ser Thr Ala Ser Ser
35 40 45

Ile Gly Ser Gly Ala Gly Thr Thr Pro Gly Ala Pro Ser Gly Arg Cys
50 55 60

Cys Ser Gly Pro Thr Thr Lys Pro Pro Arg Arg Cys Ser Ala Pro Arg
65 70 75 80

Pro Ala Trp Pro Gly Ser Gly Ser
85

<210> 121
<211> 106
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 9392 right: 9709 frame: -3 size(aa): 106

<400> 121

Arg Ile Gln Arg Gly Gln Arg Gly Arg Pro Gly Arg Gln Gly Arg Gln
1 5 10 15

Pro Leu His Leu Gly Arg Gln Gln Arg Arg Pro Ala Leu Pro Gly Val
20 25 30

Arg Pro Ala Arg Arg His Gln Val Gln Gly Ala Gln Glu Gly Pro Leu
35 40 45

Ala Gly Pro Leu Glu Arg Ala Val Pro Asp Pro Ala Ala His Pro Ala
50 55 60

Glu Arg His Pro Gly Arg Pro Ala Gly Asp Leu Pro Arg Thr Gly Ala
65 70 75 80

Gly Ala Val Arg Arg Gln Gly Gln Thr Thr Ala Pro Ala Gly Arg Leu
85 90 95

Asp Arg Gly Gly Arg Leu Gln Asp Ala Pro
100 105

<210> 122
<211> 56
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 9488 right: 9655 frame: 3 size(aa): 56

<400> 122

Val Ser Gly Arg Ala Pro Arg Val Ser Leu Ser Gly Val Ser Gly Arg
1 5 10 15

Ile Arg His Arg Ser Phe Gln Trp Ala Gly Gln Gly Ala Phe Leu Arg
20 25 30

Ser Leu Tyr Leu Val Pro Ser Ser Gly Ala His Thr Gly Gln Ser Arg
35 40 45

Pro Ser Leu Leu Ala Ser Gln Met
50 55

<210> 123
<211> 114
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 9519 right: 9860 frame: -1 size(aa): 114

<400> 123

Ser Arg Pro Gly Ser Gly Arg Ala Ser Ser Cys Pro Asn Pro Thr Pro
1 5 10 15

Arg Ser Ser Pro Thr Ser Gly Arg Arg Trp Pro Arg Pro Thr Ala Gly
20 25 30

Arg Trp Lys Pro Trp Ser Val Arg Arg Trp Pro Arg Pro Ala Arg Arg
35 40 45

Arg Met Thr His Ser Thr Arg Pro Thr Arg Thr Ser Trp Glu Thr Arg
50 55 60

Thr Ala Thr Ala Thr Ser Gly Thr Pro Ala Thr Thr Ala Gly Ser Ala
65 70 75 80

Arg Cys Ala Pro Arg Ser Thr Ala Pro Gly Thr Arg Ser Ala Arg Arg
85 90 95

Pro Pro Gly Arg Pro Thr Gly Thr Ser Gly Ala Gly Ser Cys Arg Ser
100 105 110

Pro Arg

<210> 124
<211> 58
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 9528 right: 9701 frame: 1 size(aa): 58

<400> 124

Ala Ala Gly Ser Gly Thr Ala Arg Ser Ser Gly Pro Ala Arg Gly Pro
1 5 10 15

Ser Cys Ala Pro Cys Thr Trp Cys Arg Arg Ala Gly Arg Thr Pro Gly
20 25 30

Arg Ala Gly Arg Arg Cys Trp Arg Pro Arg Cys Ser Gly Cys Arg Pro
35 40 45

Cys Leu Pro Gly Arg Pro Arg Trp Pro Arg
50 55

<210> 125
<211> 84
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 9659 right: 9910 frame: 3 size(aa): 84

<400> 125

Arg Leu Pro Ser Leu Ser Pro Arg Thr Ser Ser Leu Ala Ser Leu Asn
1 5 10 15

Ala Ser Cys Ala Val Trp Leu Ala Trp Ala Ile Asp Val Arg Thr Arg
20 25 30

Ala Ser Thr Cys Arg Arg Leu Ala Val Ala Ile Ala Val Arg Thr Ser
35 40 45

Ala Thr Ile Ser Glu Leu Asp Leu Asp Arg Arg Lys Pro Ser Arg Ser
50 55 60

Arg Ala Ser Ile Ser Phe Val Cys Pro Cys Trp Asn Ala Ala Val Ala
65 70 75 80

Val Pro Met Val

<210> 126
<211> 97
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 9705 right: 9995 frame: 1 size(aa): 97

<400> 126

Met Arg His Ala Pro Ser Gly Trp Pro Gly Pro Ser Thr Tyr Gly Pro
1 5 10 15

Gly Leu Pro Pro Ala Gly Gly Trp Pro Trp Pro Ser Pro Ser Gly Arg
20 25 30

Arg Arg Arg Ser Arg Ser Trp Ile Trp Thr Gly Gly Ser Pro Pro Gly
35 40 45

Ala Gly Pro Arg Ser Ala Ser Ser Ala Pro Ala Gly Met Gln Arg Ser
50 55 60

Pro Cys Arg Trp Cys Arg Ala Gly Pro Thr Pro Ser Gly Gly Ala Gln
65 70 75 80

Gly Met Ser Gly Ser Pro Tyr Pro Gly Arg Arg Pro Pro Ala Ala Ala
85 90 95

Gly

<210> 127
<211> 160
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 9713 right: 10192 frame: -3 size(aa): 160

<400> 127

Thr Arg Arg Ser Pro Ser Ser Arg Pro Arg Trp Pro Pro Ser Ala Thr
1 5 10 15

Gly Ser Thr Pro Cys Cys Pro Arg Pro Arg Pro Arg Arg Ser Pro Arg
20 25 30

Gly Trp Cys Arg Pro Thr Pro Thr Cys Gly Pro Ser Gly Arg Pro Arg
35 40 45

Trp Pro Leu Arg Arg Arg Arg Pro Leu Gly Gly Arg Arg Gly Arg His
50 55 60

Gly His Pro Ala Ala Ala Gly Gly Arg Arg Pro Gly Tyr Gly Leu Pro
65 70 75 80

Asp Ile Pro Trp Ala Pro Pro Glu Gly Val Gly Pro Ala Leu His His
85 90 95

Arg His Gly Asp Arg Cys Ile Pro Ala Gly Ala Asp Glu Ala Asp Arg
100 105 110

Gly Pro Ala Pro Gly Gly Leu Pro Pro Val Gln Ile Gln Leu Arg Asp
115 120 125

Arg Arg Arg Arg Pro Asp Gly Asp Gly His Gly Gln Pro Pro Ala Gly
130 135 140

Gly Ser Pro Gly Pro Tyr Val Asp Gly Pro Gly Gln Pro Asp Gly Ala
145 150 155 160

<210> 128
<211> 223
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 9864 right: 10532 frame: -1 size(aa): 223

<400> 128

Arg Ser Gly Arg Pro Ala Asn Gly Cys Pro Thr Ala Trp Thr Ser Arg
1 5 10 15

Ser Ser Gly Thr Pro Ser Arg Ala Arg Arg Pro Arg Arg Pro Arg Arg
20 25 30

Ser Ser Thr Arg Arg Pro Thr Pro Arg Ile Arg Arg Pro Thr Arg Lys
35 40 45

Pro Thr Arg Arg Pro Thr Pro Arg Arg Leu Thr Ser Glu Ser Pro Gly
50 55 60

Pro Gly Arg Pro Gly Pro Val Arg Pro Pro Gln Pro Leu Glu Ser Gly
65 70 75 80

Ala Glu Pro Asp Pro Pro Asp Leu Arg Ala Gly His Pro Pro His Pro
85 90 95

Arg Gly Ala Pro Asp Ala Ala Arg Arg Pro Ala Arg Ala Ala Val Arg
100 105 110

Leu Asn Gln Thr Leu Ala Val Ile Gln Ala Gln Val Ala Ala Val Gly
115 120 125

Asp Arg Ile Asp Ala Val Leu Pro Pro Ala Gln Ala Gln Ala Phe Ser
130 135 140

Glu Gly Leu Val Gln Ala Asp Thr Tyr Leu Arg Ala Val Gly Ala Thr
145 150 155 160

Pro Val Ala Val Ala Ala Ser Thr Ala Ser Arg Trp Ala Ser Gly Ala
165 170 175

Ser Arg Ser Pro Arg Ser Ser Trp Trp Pro Ser Pro Gly Ile Arg Ala
180 185 190

Ser Gly His Ser Leu Gly Ser Ser Gly Arg Arg Arg Ala Ser Pro Thr
195 200 205

Pro Ser Ala Arg Arg Pro Leu His Ser Ser Arg Gly Arg Arg Ser
210 215 220

<210> 129
<211> 87
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 9914 right: 10174 frame: 3 size(aa): 87

<400> 129

Gly Trp Pro Asp Ala Phe Arg Arg Ser Pro Gly Asn Val Arg Lys Pro
1 5 10 15

Val Ser Arg Ala Thr Ala Thr Ser Cys Cys Gly Val Thr Val Thr Pro
20 25 30

Pro Thr Pro Thr Glu Arg Pro Ser Thr Pro Gln Arg Pro Pro Gly Ser
35 40 45

Pro Arg Arg Pro Ala Gly Arg Cys Arg Pro Ala Pro Ala Pro Arg Arg
50 55 60

Thr Pro Gly Pro Gly Pro Gly Ala Ala Arg Arg Arg Ser Gly Arg Arg
65 70 75 80

Arg Arg Pro Pro Gly Pro Gly
85

<210> 130
<211> 88
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 10005 right: 10268 frame: 1 size(aa): 88

<400> 130

Arg Pro Arg Arg Pro Pro Arg Gly Arg Arg Arg Arg Asn Gly His Arg
1 5 10 15

Gly Arg Pro Asp Gly Pro Gln Val Gly Val Gly Leu His Gln Pro Leu
20 25 30

Gly Glu Arg Leu Gly Leu Gly Arg Gly Gln His Gly Val Asp Pro Val
35 40 45

Ala Asp Gly Gly His Leu Gly Leu Asp Asp Gly Glu Arg Leu Val Gln
50 55 60

Ala His Cys Arg Ser Ser Arg Pro Ala Gly Ser Val Trp Ser Ser Ser
65 70 75 80

Arg Met Arg Arg Val Ala Cys Ser

85

<210> 131
<211> 522
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 10078 right: 11643 frame: 2 size(aa): 522

<400> 131

Val Ser Ala Cys Thr Ser Pro Ser Glu Asn Ala Trp Ala Trp Ala Gly
1 5 10 15

Gly Ser Thr Ala Ser Ile Arg Ser Pro Thr Ala Ala Thr Trp Ala Trp
20 25 30

Met Thr Ala Ser Val Trp Phe Arg Arg Thr Ala Ala Arg Ala Gly Arg
35 40 45

Arg Ala Ala Ser Gly Ala Pro Arg Gly Cys Gly Gly Trp Pro Ala Arg
50 55 60

Arg Ser Gly Gly Ser Gly Ser Ala Pro Asp Ser Arg Gly Cys Gly Gly
65 70 75 80

Arg Thr Gly Pro Gly Arg Pro Gly Pro Gly Asp Ser Leu Val Ser Leu
85 90 95

Arg Gly Val Gly Leu Arg Val Gly Phe Arg Val Gly Leu Arg Ile Arg
100 105 110

Gly Val Gly Leu Arg Val Glu Leu Leu Leu Gly Leu Leu Gly Leu Leu
115 120 125

Ala Leu Asp Gly Val Pro Glu Leu Leu Asp Val His Ala Val Gly Gln
130 135 140

Pro Phe Ala Gly Leu Pro Asp Arg Gln Glu Gly Leu Gln Val Asp Ala
145 150 155 160

Ala Ile Asp Val Arg Leu Glu Val Glu Leu Arg Leu Leu Leu Ser Gln
165 170 175

Leu Gly Val Val Glu Val Ala Val Asp Asp Asp Arg Gly Arg Leu Pro
180 185 190

Ala Gly Val Leu Pro Thr Pro Val His Asp Asp Leu Glu Arg Arg Gly
195 200 205

Gln Val Ser Gly Asp Asp Arg Glu His Ala Val Gly Phe Gly Pro Val
210 215 220

Lys Cys Leu Gly Pro Leu Gly Leu Leu Glu Gly Leu Leu Leu Gly Glu
225 230 235 240

Asp Arg Asp Ala Gln Leu Gly Asp Leu Leu Leu Glu His Leu Gln Phe
245 250 255

```
Phe Leu Val Arg Leu Ala Ala Gly Pro Gly Asp Leu Ala Ile Leu Gly
            260                 265                 270

Ala Pro Thr Asp Gly Val Leu Gln Gly Ala Val Asp Arg Glu Pro Asp
        275                 280                 285

Leu Ala Ile Gly Val Gly Arg Val Gln Val Val Gly Leu Leu Val Val
    290                 295                 300

Val Ala Leu Pro Ala Asp His Val Lys Asp Gly Leu Ala Gly Asn Arg
305                 310                 315                 320

Gln His Leu Gly Gln Val Ala Ala Pro Leu Glu Met Gly Gln Val Glu
                325                 330                 335

Met Gly Ala Val Leu Glu Arg Gly Pro Ala Glu Gln His Pro Leu Leu
            340                 345                 350

Leu Ala Val Gly Arg Gly Gln Gly Asp Leu Phe Glu Cys Gly Val Ala
        355                 360                 365

Ala Leu Val Leu Asp Leu Leu Pro Gly Gly Ala Gly Gln Ala Gln His
    370                 375                 380

Leu Val Gly Ala Arg Gly Gln His Pro Asp Leu Leu Leu Asp Val Asp
385                 390                 395                 400

Pro Val Leu Ala Gly Gly His Leu Asp Val Leu Pro Asp Pro His Leu
                405                 410                 415

Leu Glu Ala Gly Ala Leu Pro Gly Val Val Pro Ala Ala Asp Gly Gly
            420                 425                 430

Pro Ala Gly His Leu His Gln Lys Trp Leu Val Pro Gly Gln Pro Leu
        435                 440                 445

Val Glu Gln Ala Leu Ala Phe Leu Ala Gly Val Val Gly Gln Asp Arg
    450                 455                 460

Ala Met Pro Val Arg Asp Gly Gln Pro Glu Arg Tyr Pro Gly Glu Val
465                 470                 475                 480

Val Gln Gly Gly Ala Leu Thr Val His Val Phe Ala Pro Leu Leu Pro
                485                 490                 495

Val Gly Leu Val Ala Pro Leu Gln Leu Asp Arg Leu Pro Glu Asp Gln
            500                 505                 510

Ala Gly Ala Pro Arg Ile Arg Arg Ala Arg
        515                 520
```

<210> 132
<211> 134
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 10178 right: 10579 frame: 3 size(aa): 134

<400> 132

Arg Arg Ala Ser Gly Ser Gly Ala Leu Pro Leu Glu Pro Ala Gly Gly
1 5 10 15

Gln Arg Leu Glu Leu Leu Glu Asp Ala Ala Gly Gly Leu Leu Val Gly
20 25 30

Arg Glu Asp Pro Ala Gln Arg Leu Ile Arg Glu Ala Ala Glu Gly Glu
35 40 45

Leu Val Pro Asp Asp Gln Gly Leu Gly Ile His Ser Ser Val Ser Gly
50 55 60

Gly Ser Ala Ser Gly Ser Ala Ser Gly Ser Ala Ser Gly Ser Gly Val
65 70 75 80

Ser Ala Ser Gly Ser Ser Ser Ser Ser Val Ser Ser Ala Ser Ser Pro
85 90 95

Ser Met Val Ser Arg Ser Ser Ser Thr Ser Thr Leu Ser Gly Ser His
100 105 110

Ser Pro Val Cys Gln Thr Val Arg Lys Val Ser Arg Ser Met Pro Pro
115 120 125

Ser Met Tyr Ala Leu Arg
130

<210> 133
<211> 54
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 10196 right: 10357 frame: -3 size(aa): 54

<400> 133

Arg Val Asn Pro Gln Ala Leu Val Val Arg Asp Gln Phe Ala Leu Arg
1 5 10 15

Ser Leu Ser Asn Gln Ala Leu Ser Arg Ile Leu Pro Thr Tyr Glu Gln
20 25 30

Ala Thr Arg Arg Ile Leu Glu Glu Leu Gln Thr Leu Pro Ala Gly Arg
35 40 45

Leu Glu Arg Gln Cys Ala
50

<210> 134
<211> 92
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature

<223> New ORF = left: 10299 right: 10574 frame: 1 size(aa): 92

<400> 134

Phe Glu Arg Leu Arg Arg Ala Asn Trp Ser Arg Thr Thr Arg Ala Trp
1 5 10 15

Gly Phe Thr Arg Gln Ser Pro Gly Gly Arg Pro Pro Gly Arg Leu Pro
20 25 30

Gly Arg Pro Pro Asp Pro Gly Cys Arg Pro Pro Gly Arg Ala Pro Pro
35 40 45

Arg Ser Pro Arg Pro Pro Arg Pro Arg Trp Cys Pro Gly Ala Pro Arg
50 55 60

Arg Pro Arg Cys Arg Ala Ala Ile Arg Arg Ser Ala Arg Pro Ser Gly
65 70 75 80

Arg Ser Pro Gly Arg Cys Arg His Arg Cys Thr Pro
85 90

<210> 135
<211> 445
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 10354 right: 11688 frame: -2 size(aa): 445

<400> 135

Thr Ala Val His Arg Ala Gly Leu Pro Gly Gly Val His Pro Leu Pro
1 5 10 15

Gly Pro Pro Asp Pro Gly Gly Ala Gly Leu Ile Leu Arg Lys Pro Ile
20 25 30

Gln Leu Gln Gly Gly Asp Glu Ala Tyr Trp Glu Glu Trp Arg Lys Asp
35 40 45

Val Asp Arg Gln Gly Ser Ser Leu Asp Asp Phe Ala Arg Val Thr Leu
50 55 60

Gly Leu Ala Ile Ser Tyr Gly His Ser Ser Val Leu Ala Asp Tyr Thr
65 70 75 80

Ser Glu Glu Arg Gln Ser Leu Leu Asp Gln Arg Leu Ala Gly Asp Lys
85 90 95

Pro Phe Leu Val Gln Val Pro Cys Trp Ala Thr Ile Gly Arg Arg His
100 105 110

Asn Pro Arg Glu Gly Ser Gly Leu Gln Gln Val Arg Ile Arg Glu Tyr
115 120 125

Val Glu Val Pro Ala Gly Lys Tyr Gly Val Asn Val Glu Glu Gln Ile
130 135 140

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Arg Val Leu Thr Pro Gly Ala Tyr Glu Val Leu Arg Leu Thr Gly Thr
145                 150                 155                 160

Ala Trp Glu Lys Val Glu Asp Glu Ser Gly Asp Thr Thr Leu Lys Glu
                165                 170                 175

Ile Pro Leu Ala Thr Thr Tyr Ser Gln Lys Glu Gly Val Leu Leu Ser
            180                 185                 190

Arg Pro Pro Leu Glu Asp Cys Ala His Leu Asn Leu Ala His Phe Gln
        195                 200                 205

Arg Arg Ser Asp Leu Thr Gln Val Leu Thr Ile Ala Gly Gln Pro Ile
    210                 215                 220

Leu Asp Met Val Gly Trp Glu Gly Asp Asp Asp Glu Glu Ala Asp Asp
225                 230                 235                 240

Leu Asp Pro Thr Asn Thr Asp Gly Glu Ile Gly Leu Ser Val Asn Ser
                245                 250                 255

Ala Leu Gln Tyr Pro Ile Gly Gly Gly Ser Lys Tyr Cys Glu Ile Thr
            260                 265                 270

Gly Ala Ser Cys Glu Ala His Gln Lys Glu Leu Glu Val Leu Lys Glu
        275                 280                 285

Gln Ile Thr Gln Leu Gly Ile Ser Val Leu Thr Gln Gln Gln Thr Phe
    290                 295                 300

Gln Glu Thr Glu Gly Ala Lys Thr Leu Asp Arg Ala Glu Ser Asn Ser
305                 310                 315                 320

Met Leu Ser Val Ile Ala Arg Asp Leu Ala Ser Thr Leu Gln Ile Val
                325                 330                 335

Met Asn Trp Cys Gly Glu Tyr Thr Gly Arg Glu Ala Ser Thr Val Val
            340                 345                 350

Ile Asp Ser Asp Phe Asp His Ala Lys Leu Thr Lys Glu Glu Ala Glu
        355                 360                 365

Leu Tyr Leu Lys Ala Tyr Ile Asp Gly Gly Ile Asp Leu Glu Thr Phe
    370                 375                 380

Leu Thr Val Trp Gln Thr Gly Glu Trp Leu Pro Asp Ser Val Asp Val
385                 390                 395                 400

Glu Glu Leu Arg Asp Thr Ile Glu Gly Glu Glu Ala Glu Glu Thr Glu
                405                 410                 415

Glu Glu Leu Asp Pro Glu Ala Asp Thr Pro Asp Pro Glu Ala Asp Pro
            420                 425                 430

Glu Ala Asp Pro Glu Ala Asp Pro Pro Glu Thr Asp Glu
        435                 440                 445
```

<210> 136
<211> 79
<212> PRT

<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 10361 right: 10597 frame: -3 size(aa): 79

<400> 136

Gly Gly Gly Gly Ala Leu Pro Gln Gly Val His Arg Trp Arg His Arg
1 5 10 15

Pro Gly Asp Leu Pro Asp Gly Leu Ala Asp Arg Arg Met Ala Ala Arg
20 25 30

Gln Arg Gly Arg Arg Gly Ala Pro Gly His His Arg Gly Arg Gly Gly
35 40 45

Arg Gly Asp Arg Gly Gly Ala Arg Pro Gly Gly Arg His Pro Gly Ser
50 55 60

Gly Gly Arg Pro Gly Ser Arg Pro Gly Gly Arg Pro Pro Gly Asp
65 70 75

<210> 137
<211> 186
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 10583 right: 11140 frame: 3 size(aa): 186

<400> 137

Ser Ser Ala Ser Ser Leu Val Ser Leu Ala Trp Ser Lys Ser Leu Ser
1 5 10 15

Met Thr Thr Val Asp Ala Ser Arg Pro Val Tyr Ser Pro His Gln Phe
20 25 30

Met Thr Ile Trp Ser Val Glu Ala Arg Ser Arg Ala Met Thr Glu Ser
35 40 45

Met Leu Leu Asp Ser Ala Arg Ser Ser Val Leu Ala Pro Ser Val Ser
50 55 60

Trp Lys Val Cys Cys Trp Val Arg Thr Glu Met Pro Ser Trp Val Ile
65 70 75 80

Cys Ser Leu Ser Thr Ser Ser Ser Phe Trp Cys Ala Ser Gln Leu Ala
85 90 95

Pro Val Ile Ser Gln Tyr Leu Glu Pro Pro Pro Met Gly Tyr Cys Lys
100 105 110

Ala Leu Leu Thr Glu Ser Pro Ile Ser Pro Ser Val Leu Val Gly Ser
115 120 125

Arg Ser Ser Ala Ser Ser Ser Ser Ser Pro Ser Gln Pro Thr Met Ser

130 135 140

Arg Met Gly Trp Pro Ala Ile Val Ser Thr Trp Val Arg Ser Leu Arg
145 150 155 160

Arg Trp Lys Trp Ala Arg Leu Arg Trp Ala Gln Ser Ser Ser Gly Gly
165 170 175

Arg Leu Ser Ser Thr Pro Ser Phe Trp Leu
180 185

<210> 138
<211> 119
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 10680 right: 11036 frame: -1 size(aa): 119

<400> 138

Arg Leu Pro Ala Ser Pro Ser Leu Thr Trp Ser Ala Gly Arg Ala Thr
1 5 10 15

Thr Thr Arg Arg Pro Thr Thr Trp Thr Arg Pro Thr Pro Met Ala Arg
20 25 30

Ser Gly Ser Arg Ser Thr Ala Pro Cys Ser Thr Pro Ser Val Gly Ala
35 40 45

Pro Ser Ile Ala Arg Ser Pro Gly Pro Ala Ala Arg Arg Thr Arg Lys
50 55 60

Asn Trp Arg Cys Ser Arg Ser Arg Ser Pro Ser Trp Ala Ser Arg Ser
65 70 75 80

Ser Pro Ser Ser Arg Pro Ser Lys Arg Pro Arg Gly Pro Arg His Leu
85 90 95

Thr Gly Pro Asn Pro Thr Ala Cys Ser Arg Ser Ser Pro Glu Thr Trp
100 105 110

Pro Arg Arg Ser Arg Ser Ser
115

<210> 139
<211> 87
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 10751 right: 11011 frame: -3 size(aa): 87

<400> 139

His Gly Arg Leu Gly Gly Arg Arg Arg Arg Gly Gly Arg Arg Pro Gly
1 5 10 15

Pro Asp Gln His Arg Trp Arg Asp Arg Ala Leu Gly Gln Gln Arg Leu
20 25 30

Ala Val Pro His Arg Trp Gly Leu Gln Val Leu Arg Asp His Arg Gly
35 40 45

Gln Leu Arg Gly Ala Pro Glu Arg Thr Gly Gly Ala Gln Gly Ala Asp
50 55 60

His Pro Ala Gly His Leu Gly Pro His Pro Ala Ala Asp Leu Pro Arg
65 70 75 80

Asp Arg Gly Gly Gln Asp Thr
85

<210> 140
<211> 51
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 10929 right: 11081 frame: 1 size(aa): 51

<400> 140

Pro Arg Ala Arg Ser Arg His Arg Cys Trp Ser Gly Pro Gly Arg Arg
1 5 10 15

Pro Pro Arg Arg Arg Arg Pro Pro Ser Arg Pro Cys Gln Gly Trp Ala
20 25 30

Gly Arg Gln Ser Ser Ala Pro Gly Ser Gly Arg Cys Ala Val Gly Asn
35 40 45

Gly Pro Gly
50

<210> 141
<211> 152
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 11015 right: 11470 frame: -3 size(aa): 152

<400> 141

Leu Gly Pro Gly Arg Leu His Gln Arg Gly Thr Pro Glu Pro Ala Arg
1 5 10 15

Pro Ala Ala Gly Arg Gly Gln Ala Ile Ser Gly Ala Gly Ala Leu Leu
20 25 30

Gly His His Arg Pro Pro Ala Gln Pro Pro Gly Gly Leu Arg Pro Pro
35 40 45

Ala Gly Ala Asp Pro Gly Val Arg Arg Gly Ala Arg Arg Gln Val Arg
50 55 60

Gly Gln Arg Arg Gly Ala Asp Pro Gly Ala Asp Pro Gly Arg Leu Arg
65 70 75 80

Gly Ala Ala Pro Asp Arg His Arg Leu Gly Glu Gly Arg Gly Arg Glu
85 90 95

Arg Arg His His Thr Gln Arg Asp Pro Pro Gly His Asp Leu Gln Pro
100 105 110

Lys Gly Gly Gly Ala Ala Gln Pro Ala Pro Ala Arg Gly Leu Arg Pro
115 120 125

Ser Gln Pro Gly Pro Phe Pro Thr Ala Gln Arg Pro Asp Pro Gly Ala
130 135 140

Asp Asp Cys Arg Pro Ala His Pro
145 150

<210> 142
<211> 55
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 11052 right: 11216 frame: -1 size(aa): 55

<400> 142

Pro Ala Pro Pro Gly Arg Arg Ser Arg Thr Arg Ala Ala Thr Pro His
1 5 10 15

Ser Lys Arg Ser Pro Trp Pro Arg Pro Thr Ala Lys Arg Arg Gly Cys
20 25 30

Cys Ser Ala Gly Pro Arg Ser Arg Thr Ala Pro Ile Ser Thr Trp Pro
35 40 45

Ile Ser Asn Gly Ala Ala Thr
50 55

<210> 143
<211> 72
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 11237 right: 11452 frame: 3 size(aa): 72

<400> 143

Ala Pro Gly Val Ser Thr Arg Ile Cys Ser Ser Thr Leu Thr Pro Tyr
1 5 10 15

Leu Pro Ala Gly Thr Ser Thr Tyr Ser Arg Ile Arg Thr Cys Trp Arg

20 25 30

Pro Glu Pro Ser Arg Gly Leu Cys Arg Arg Pro Met Val Ala Gln Gln
35 40 45

Gly Thr Cys Thr Arg Asn Gly Leu Ser Pro Ala Ser Arg Trp Ser Ser
50 55 60

Arg Leu Trp Arg Ser Ser Leu Val
65 70

<210> 144
<211> 84
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 11250 right: 11501 frame: -1 size(aa): 84

<400> 144

Arg Ser Gly Trp Pro Ser Leu Thr Gly Ile Ala Arg Ser Trp Pro Thr
1 5 10 15

Thr Pro Ala Arg Asn Ala Arg Ala Cys Ser Thr Ser Gly Trp Pro Gly
20 25 30

Thr Ser His Phe Trp Cys Arg Cys Pro Ala Gly Pro Pro Ser Ala Ala
35 40 45

Gly Thr Thr Pro Gly Arg Ala Pro Ala Ser Ser Arg Cys Gly Ser Gly
50 55 60

Ser Thr Ser Arg Cys Pro Pro Ala Ser Thr Gly Ser Thr Ser Arg Ser
65 70 75 80

Arg Ser Gly Cys

<210> 145
<211> 239
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 11277 right: 11993 frame: 1 size(aa): 239

<400> 145

Pro Arg Thr Cys Arg Arg Ala Pro Arg Arg Thr Pro Gly Ser Ala Pro
1 5 10 15

Ala Gly Gly Arg Ser Pro Pro Gly Gly Cys Ala Gly Gly Arg Trp Trp
20 25 30

Pro Ser Arg Ala Pro Ala Pro Glu Met Ala Cys Pro Arg Pro Ala Ala
35 40 45

```
Gly Arg Ala Gly Ser Gly Val Pro Arg Trp Cys Ser Arg Pro Gly Pro
    50                  55                  60

Ser Tyr Ala Arg Lys Arg Trp Pro Ala Arg Ala Leu Pro Gly Arg Ser
65                  70                  75                  80

Arg Pro Gly Arg Ser Pro Asp Gly Pro Arg Leu Cys Ala Thr Pro Pro
                85                  90                  95

Ser Arg Pro Arg Arg Pro Pro Ala Ala Gly Ser Ala Ser Gly Gly Ser
            100                 105                 110

Gly Arg Arg Pro Pro Asp Gln Ala Gly Gln Val Gly Gly Val His Arg
        115                 120                 125

Pro Gly Asp Pro Pro Asp Val Leu Pro Phe Thr Leu Pro Gly Glu Pro
    130                 135                 140

Gly Gln Val Val Ile Ala Glu Arg Pro Glu Val Pro Asp Ala Leu Gln
145                 150                 155                 160

Val Gly Pro Asp His Leu Pro Ala Ala Gln His His Pro Val Gly Gln
                165                 170                 175

Val Arg Phe Val Arg Val Val Arg Arg Gln Gly Val Ser Ser Gln Leu
            180                 185                 190

Cys Leu Gly Gln Gly Leu Gly Ile Gln Asp Arg Val Ile Pro Pro Ala
        195                 200                 205

Glu Gly Gly Ile His Arg Gly Gly Gly Gly Arg Leu Ser His Thr Pro
    210                 215                 220

Glu Leu Arg Pro Ala Arg Ser Trp Lys Ser Arg Asn Ala Ser Pro
225                 230                 235
```

<210> 146
<211> 52
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 11474 right: 11629 frame: -3 size(aa): 52

<400> 146

```
Ser Gly Gly Arg Arg Pro Asp Pro Pro Glu Ala Asp Pro Ala Ala Gly
1               5                   10                  15

Gly Arg Arg Gly Leu Leu Gly Gly Val Ala Gln Arg Arg Gly Pro Ser
            20                  25                  30

Gly Leu Leu Pro Gly Arg Leu Arg Pro Gly Asn Ala Arg Ala Gly His
        35                  40                  45

Leu Leu Arg Ala
    50
```

<210> 147
<211> 128
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 11570 right: 11953 frame: 3 size(aa): 128

<400> 147

Ala Ser Ser Pro Pro Cys Ser Trp Ile Gly Phe Arg Arg Ile Arg Pro
1 5 10 15

Ala Pro Pro Gly Ser Gly Gly Pro Gly Arg Gly Cys Thr Pro Pro Gly
20 25 30

Arg Pro Ala Arg Cys Thr Ala Val Tyr Ala Pro Gly Gly Thr Gly Ala
35 40 45

Gly Ser Asn Arg Arg Thr Pro Gly Gly Thr Gly Arg Pro Pro Gly Trp
50 55 60

Pro Gly Ser Pro Pro Ser Gly Ala Ala Ser Pro Gly Arg Ser Gly Pro
65 70 75 80

Val Arg Ser Gly Arg Pro Ala Pro Gly Ser Leu Leu Pro Ala Leu Pro
85 90 95

Arg Pro Gly Pro Arg Asp Ser Gly Pro Cys Asp Pro Ala Ser Arg Gly
100 105 110

Arg Asp Pro Ser Gly Arg Arg Arg Ala Ser Gln Ser Tyr Pro Gly Ala
115 120 125

<210> 148
<211> 186
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 11613 right: 12170 frame: -1 size(aa): 186

<400> 148

Pro Pro Thr Ala Ser Ala Thr Ile Ala Phe Thr Pro Gly Ala Arg Arg
1 5 10 15

Pro Ser Arg Ala Ser Glu Ala Ser Ala Ser Arg Arg Gly Pro Arg Ala
20 25 30

Ser Pro Ser Thr Arg Ser Pro Gly Ser Ser Thr Gly Arg Thr Ala Trp
35 40 45

Gly Thr Trp Pro Cys Arg Pro Ala Thr Ala Ser Arg Ala Gly Val Pro
50 55 60

Ala Leu Pro Thr Ser Arg Trp Ser Lys Leu Arg Gly Met Thr Glu Thr

65 70 75 80

Pro Ser Ser Ala Pro Met Asp Pro Ala Leu Gly Trp Arg Asp His Thr
85 90 95

Val Leu Asn Pro Glu Ala Leu Ala Glu Ala Lys Leu Gly Gly Asp Ser
100 105 110

Leu Ala Pro Asp Asp Pro Asn Glu Pro Asp Leu Thr Tyr Arg Val Met
115 120 125

Leu Arg Arg Trp Glu Val Ile Arg Ala Asn Leu Glu Gly Val Arg Tyr
130 135 140

Leu Arg Ala Phe Cys Asp Tyr Tyr Leu Pro Arg Phe Pro Arg Glu Arg
145 150 155 160

Lys Arg Gln Tyr Ile Gly Arg Val Ser Arg Ala Val Tyr Thr Pro Tyr
165 170 175

Leu Ala Arg Leu Ile Arg Gly Ala Pro Ala
180 185

<210> 149
<211> 81
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 11692 right: 11934 frame: -2 size(aa): 81

<400> 149

Asp Ala Leu Leu Arg Pro Asp Gly Ser Arg Pro Arg Leu Ala Gly Ser
1 5 10 15

His Gly Pro Glu Ser Arg Gly Pro Gly Arg Gly Lys Ala Gly Arg Arg
20 25 30

Leu Pro Gly Ala Gly Arg Pro Glu Arg Thr Gly Pro Asp Leu Pro Gly
35 40 45

Asp Ala Ala Pro Leu Gly Gly Asp Pro Gly Gln Pro Gly Gly Arg Pro
50 55 60

Val Pro Pro Gly Val Leu Arg Leu Leu Pro Ala Pro Val Pro Pro Gly
65 70 75 80

Ala

<210> 150
<211> 438
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 11890 right: 13203 frame: 2 size(aa): 438

<400> 150

Ser Arg Gln Pro Arg Ala Gly Ser Ile Gly Ala Glu Glu Gly Val Ser
1 5 10 15

Val Ile Pro Arg Ser Leu Asp Gln Arg Glu Val Gly Arg Ala Gly Thr
20 25 30

Pro Ala Leu Asp Ala Val Ala Gly Arg Gln Gly Gln Val Pro Gln Ala
35 40 45

Val Arg Pro Val Leu Asp Pro Gly Leu Leu Val Asp Gly Glu Ala Leu
50 55 60

Gly Pro Leu Leu Asp Ala Asp Ala Ser Glu Ala Leu Asp Gly Leu Leu
65 70 75 80

Ala Pro Gly Val Asn Ala Ile Val Ala Leu Ala Val Gly Gly His Asp
85 90 95

Gln Arg Val Arg Arg Val Glu Leu Val Leu Asp Ala Pro Gly Gly Val
100 105 110

Arg Gly Glu Asp Leu Glu Ala Val Leu Pro Glu Asp Arg Met Val Gly
115 120 125

Asp Ala Gly Leu Gly Gly Arg Leu Pro Ala Val Ala Arg Arg Val Gly
130 135 140

Ala Asp His Asp Leu Ala Pro Leu Glu Pro Leu Gly Gln Val Ala Pro
145 150 155 160

His Leu Val Gly Val Ala Val Arg His Val Asp Leu Val Pro Leu Gln
165 170 175

Gln Pro Leu Ala Arg Glu Asp Arg Ala Asp Asp Ala Gly His His Arg
180 185 190

His Val Lys Val Glu Ala Asp Val Asp Arg Ala Ala Val Val Leu Gly
195 200 205

Ala Leu Pro Asp Val Leu Leu Ala Glu Val Val Val Gly Pro Ala Gly
210 215 220

Ser Ser Leu Glu Ala Gly Leu Val Leu Leu Ala Glu Gly Ala Gly Val
225 230 235 240

Glu Val Val Pro Gly Leu Leu Asp Leu Gly Leu Gly Asp Pro Ala Ala
245 250 255

Leu Asp Gly Gly Glu Leu Glu Ala Gly Pro Phe Arg Val Leu Leu His
260 265 270

Arg Leu Pro Glu Leu Val Val Met Val Glu Ala Leu Arg Gly Gly Asp
275 280 285

Leu Pro Ala Arg Pro Leu Leu Val Arg Gln Arg Arg Leu Gln His Leu
290 295 300

```
Gly Pro Glu Leu Arg Leu Gly Glu Arg Arg Leu Val Asp Asp Gly Pro
305                 310                 315                 320

Gly Gln Ala Val Ala Pro Glu Ala Val Gly Val Val Arg Pro Lys Glu
                325                 330                 335

Arg Gln Arg Arg Pro Val Pro Gln Val Asp Pro Glu Leu Gly Val Val
            340                 345                 350

Asp Ala Gly Asp Ile Cys Arg Val Asp Gln Leu Leu Glu Ala Leu Pro
        355                 360                 365

Gly Asp Pro Leu Gly Arg Pro Val Gly Arg Gly Asp Val Pro Val Val
    370                 375                 380

Ala Leu Arg Val Gly His Ala Pro Val Pro Glu Ala Asp Gln Gly Gln
385                 390                 395                 400

Val Arg Leu Ala Glu Ala Pro Ala Ala Gly Glu Gln Asp Val Ala Pro
                405                 410                 415

Ala Ala Arg Val Asp Leu Arg Leu Gly Ala Ala Glu Leu Pro Asp Arg
            420                 425                 430

Leu Ala Leu Ile Lys Ser
        435

<210>  151
<211>  176
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  >New ORF = left: 11942 right: 12469 frame: -3 size(aa): 176


<400>  151

Arg Val Gly Asp Gly Arg Arg His Leu Leu Asp Pro Pro Gly Gln Ala
1               5                   10                  15

Ala Ala Ala Val Gly Arg Asp Gln His Ala Glu Gln Gln His Arg Arg
            20                  25                  30

Gly Gly Ala Leu Pro Gly Arg Ala Val Pro Gly Ala Gln Gly Arg Gly
        35                  40                  45

Leu Pro Arg Pro Asp Gly Gln Gln Pro Glu Asp Val Arg Arg Gly Arg
    50                  55                  60

Arg His Arg Pro Tyr Asp Pro Pro Glu Ala Arg Pro Gln Gly Pro His
65                  70                  75                  80

Pro Glu Leu Pro Leu Gly Arg Gln Gly Gln Ala Gln Arg Asp Glu Arg
                85                  90                  95

Ala Gly His Asp Arg Arg Arg Arg Ala Pro Leu Ser His Ser Pro Pro
            100                 105                 110

Val Gln Glu Asp His Gln Gly Pro Pro Arg Arg Leu Arg Gln Gly Gly
```

115 120 125

Gly Arg Gly Leu Arg His Arg Gln Glu Ala Arg Asp Arg Ala Leu Asp
130 135 140

Gly Arg Pro Gly Val Pro Gly Pro Val Gly Leu Gln Pro Arg Gln Gly
145 150 155 160

Leu Ala Phe Arg Leu Phe Gln Leu Leu Ala Gly Leu Ser Ser Gly Val
165 170 175

<210> 152
<211> 448
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 11956 right: 13299 frame: -2 size(aa): 448

<400> 152

Gly Gly Gly Tyr Gly Arg Arg Thr Arg Tyr Met Leu Phe Pro Ala Thr
1 5 10 15

Cys Gly Gly Thr Ile Leu Gly Ser Arg Ser Gly Arg Gly Ser Asn Leu
20 25 30

Ala Phe Asp Glu Arg Gln Ser Ile Arg Glu Leu Ser Gly Pro Gln Ala
35 40 45

Gln Ile Tyr Thr Cys Gly Arg Arg Asn Val Leu Leu Thr Cys Gly Arg
50 55 60

Arg Phe Gly Lys Thr His Leu Ala Leu Ile Arg Leu Arg Asn Trp Gly
65 70 75 80

Met Ser His Pro Glu Gly Asn Tyr Trp Tyr Val Ala Pro Thr Tyr Arg
85 90 95

Ala Ala Lys Arg Ile Ala Trp Lys Arg Leu Lys Lys Leu Ile Asp Pro
100 105 110

Thr Tyr Val Ala Gly Ile Asn Asn Thr Glu Leu Arg Ile Asp Leu Trp
115 120 125

Asn Gly Ala Thr Leu Thr Leu Phe Gly Ala Asp Asn Pro Asp Ser Leu
130 135 140

Arg Gly Asp Ser Leu Ser Gly Ala Val Ile Asp Glu Ala Ala Phe Thr
145 150 155 160

Lys Pro Glu Leu Trp Thr Glu Val Leu Gln Pro Ala Leu Ser Asp Gln
165 170 175

Glu Gly Pro Cys Trp Gln Ile Thr Thr Pro Lys Gly Phe Asn His Tyr
180 185 190

His Glu Leu Trp Glu Ser Val Glu Glu Asp Pro Glu Trp Ala Arg Phe
195 200 205

```
Glu Phe Thr Thr Ile Gln Gly Gly Arg Val Ser Glu Ala Glu Ile Glu
    210                 215                 220

Lys Ala Arg Asn His Leu Asp Pro Arg Thr Phe Arg Gln Glu Tyr Glu
225                 230                 235                 240

Ala Ser Phe Glu Ala Ala Ala Gly Arg Ala Tyr Tyr Asp Phe Gly Gln
                245                 250                 255

Glu Asn Ile Trp Glu Gly Ala Glu Asp Asn Gly Gly Thr Val Tyr Val
            260                 265                 270

Gly Leu Asp Phe Asn Val Ser Val Met Ala Gly Val Ile Cys Ser Ile
        275                 280                 285

Leu Pro Gly Lys Arg Leu Leu Gln Trp Asp Glu Ile Asn Met Pro Asn
    290                 295                 300

Ser Asn Thr Asp Glu Val Gly Arg Tyr Leu Ala Glu Arg Phe Gln Gly
305                 310                 315                 320

Arg Lys Val Val Val Cys Pro Asp Pro Thr Gly Asn Ser Arg Lys Thr
                325                 330                 335

Ser Ala Glu Ala Gly Val Thr Asp His Thr Ile Leu Arg Lys His Gly
            340                 345                 350

Leu Lys Val Leu Thr Pro Asn Ser Pro Trp Gly Val Lys Asp Lys Leu
        355                 360                 365

Asn Ala Thr Asn Ala Leu Val Met Thr Ala Asp Gly Glu Arg His Tyr
    370                 375                 380

Arg Ile His Pro Arg Cys Lys Lys Thr Ile Lys Gly Leu Arg Gly Val
385                 390                 395                 400

Cys Val Lys Glu Gly Ala Glu Gly Phe Ala Ile Asp Lys Lys Pro Gly
                405                 410                 415

Ile Glu His Trp Thr Asp Gly Leu Gly Tyr Leu Ala Leu Ser Ala Cys
            420                 425                 430

Asn Arg Val Lys Gly Trp Arg Ser Gly Ser Ser Asn Phe Ser Leu Val
        435                 440                 445

<210>  153
<211>  61
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  >New ORF = left: 11957 right: 12139 frame: 3 size(aa): 61


<400>  153

Thr Ser Glu Lys Leu Glu Glu Pro Glu Arg Gln Pro Leu Thr Arg Leu
1               5                   10                  15
```

Gln Ala Asp Arg Ala Arg Tyr Pro Arg Pro Ser Val Gln Cys Ser Ile
20 25 30

Pro Gly Phe Leu Ser Met Ala Lys Pro Ser Ala Pro Ser Leu Thr Gln
35 40 45

Thr Pro Arg Arg Pro Leu Met Val Phe Leu His Arg Gly
50 55 60

<210> 154
<211> 70
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 12152 right: 12361 frame: 3 size(aa): 70

<400> 154

Trp Arg Ser Pro Ser Ala Val Met Thr Ser Ala Phe Val Ala Leu Ser
1 5 10 15

Leu Ser Leu Thr Pro Gln Gly Glu Phe Gly Val Arg Thr Leu Arg Pro
20 25 30

Cys Phe Arg Arg Ile Val Trp Ser Val Thr Pro Ala Ser Ala Asp Val
35 40 45

Phe Arg Leu Leu Pro Val Gly Ser Gly Gln Thr Thr Thr Leu Arg Pro
50 55 60

Trp Asn Arg Ser Ala Arg
65 70

<210> 155
<211> 95
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 12174 right: 12458 frame: -1 size(aa): 95

<400> 155

Trp Pro Ala Ser Ser Ala Arg Ser Ser Arg Ala Ser Gly Cys Cys Ser
1 5 10 15

Gly Thr Arg Ser Thr Cys Arg Thr Ala Thr Pro Thr Arg Trp Gly Ala
20 25 30

Thr Trp Pro Ser Gly Ser Arg Gly Ala Arg Ser Trp Ser Ala Pro Thr
35 40 45

Arg Arg Ala Thr Ala Gly Arg Arg Pro Pro Arg Pro Ala Ser Pro Thr
50 55 60

Ile Arg Ser Ser Gly Ser Thr Ala Ser Arg Ser Ser Pro Arg Thr Pro

65 70 75 80

Pro Gly Ala Ser Arg Thr Ser Ser Thr Arg Arg Thr Arg Trp Ser
85 90 95

<210> 156
<211> 146
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 12462 right: 12899 frame: -1 size(aa): 146

<400> 156

Arg Ser Leu Gly Arg Thr Thr Pro Thr Ala Ser Gly Ala Thr Ala Cys
1 5 10 15

Pro Gly Pro Ser Ser Thr Arg Arg Arg Ser Pro Ser Arg Ser Ser Gly
20 25 30

Pro Arg Cys Cys Ser Arg Arg Cys Arg Thr Arg Arg Gly Arg Ala Gly
35 40 45

Arg Ser Pro Pro Arg Arg Ala Ser Thr Ile Thr Thr Ser Ser Gly Ser
50 55 60

Arg Trp Arg Arg Thr Arg Asn Gly Pro Ala Ser Ser Ser Pro Pro Ser
65 70 75 80

Arg Ala Ala Gly Ser Pro Arg Pro Arg Ser Arg Arg Pro Gly Thr Thr
85 90 95

Ser Thr Pro Ala Pro Ser Ala Arg Ser Thr Arg Pro Ala Ser Arg Leu
100 105 110

Leu Pro Ala Gly Pro Thr Thr Thr Ser Ala Arg Arg Thr Ser Gly Arg
115 120 125

Ala Pro Arg Thr Thr Ala Ala Arg Ser Thr Ser Ala Ser Thr Leu Thr
130 135 140

Cys Arg
145

<210> 157
<211> 240
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 12473 right: 13192 frame: -3 size(aa): 240

<400> 157

Ala Pro Val Asp Pro Gly Ala Gln Arg Pro Pro Gly Ala Asp Leu His
1 5 10 15

```
Val Arg Pro Ala Gln Arg Pro Ala His Leu Arg Pro Ala Leu Arg Gln
            20                  25                  30

Asp Ala Pro Gly Pro Asp Pro Pro Pro Glu Leu Gly His Val Pro Pro
        35                  40                  45

Gly Gly Gln Leu Leu Val Arg Arg Pro Asp Leu Pro Gly Gly Gln Ala
    50                  55                  60

Asp Arg Leu Glu Ala Pro Gln Glu Ala Asp Arg Pro Asp Ile Cys Arg
65                  70                  75                  80

Arg His Gln Gln His Arg Ala Pro Asp Arg Pro Val Glu Arg Gly Asp
                85                  90                  95

Ala Asp Ala Leu Trp Gly Gly Gln Pro Arg Gln Pro Pro Gly Arg Gln
            100                 105                 110

Pro Val Arg Gly Arg His Arg Arg Gly Gly Val His Gln Ala Gly Ala
        115                 120                 125

Leu Asp Arg Gly Ala Ala Ala Gly Ala Val Gly Pro Gly Gly Ala Val
    130                 135                 140

Leu Ala Asp His His Pro Glu Gly Leu Gln Pro Leu Pro Arg Ala Leu
145                 150                 155                 160

Gly Val Gly Gly Gly Gly Pro Gly Met Gly Pro Leu Arg Val His His
                165                 170                 175

His Pro Gly Arg Pro Gly Leu Arg Gly Arg Asp Arg Glu Gly Pro Glu
            180                 185                 190

Pro Pro Arg Pro Pro His Leu Pro Pro Gly Val Arg Gly Gln Leu Arg
        195                 200                 205

Gly Cys Cys Arg Pro Gly Leu Leu Arg Leu Arg Pro Gly Glu His Leu
    210                 215                 220

Gly Gly Arg Arg Gly Gln Arg Arg His Gly Leu Arg Arg Pro Arg Leu
225                 230                 235                 240
```

<210> 158
<211> 65
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 12474 right: 12668 frame: 1 size(aa): 65

<400> 158

```
Ser Arg Gly Arg Arg Arg Pro Cys Arg Arg Cys Pro Arg Arg Pro Pro
1               5                   10                  15

Arg Cys Ser Pro Gly Arg Ser Arg Ser Arg Pro Gly Arg Gln Gln Pro
            20                  25                  30
```

```
Arg Ser Trp Pro Arg Thr Pro Gly Gly Arg Cys Gly Gly Arg Gly Gly
        35                  40                  45

Ser Gly Pro Ser Arg Ser Arg Pro Arg Arg Pro Gly Arg Pro Gly Trp
    50                  55                  60

Trp
65
```

<210> 159
<211> 58
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 12551 right: 12724 frame: 3 size(aa): 58

<400> 159

```
Ala Arg Pro Ala Ala Ala Ser Lys Leu Ala Ser Tyr Ser Trp Arg Lys
1               5                   10                  15

Val Arg Gly Ser Arg Trp Phe Arg Ala Phe Ser Ile Ser Ala Ser Glu
            20                  25                  30

Thr Arg Pro Pro Trp Met Val Val Asn Ser Lys Arg Ala His Ser Gly
        35                  40                  45

Ser Ser Ser Thr Asp Ser Gln Ser Ser Trp
    50                  55
```

<210> 160
<211> 96
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 12728 right: 13015 frame: 3 size(aa): 96

<400> 160

```
Trp Leu Lys Pro Phe Gly Val Val Ile Cys Gln His Gly Pro Ser Trp
1               5                   10                  15

Ser Asp Ser Ala Gly Cys Ser Thr Ser Val Gln Ser Ser Gly Leu Val
            20                  25                  30

Asn Ala Ala Ser Ser Met Thr Ala Pro Asp Arg Leu Ser Pro Arg Arg
        35                  40                  45

Leu Ser Gly Leu Ser Ala Pro Lys Ser Val Ser Val Ala Pro Phe His
    50                  55                  60

Arg Ser Ile Arg Ser Ser Val Leu Leu Met Pro Ala Thr Tyr Val Gly
65                  70                  75                  80

Ser Ile Ser Phe Leu Arg Arg Phe Gln Ala Ile Arg Leu Ala Ala Arg
```

85 90 95

<210> 161
<211> 151
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 13173 right: 13625 frame: 1 size(aa): 151

<400> 161

Ala Pro Gly Ser Thr Gly Ala His Gln Lys Leu Gly Trp Ile Pro Gly
1 5 10 15

Pro Thr Gly Ser Arg Gly Ser Cys Arg Arg Arg Trp Leu Gly Arg Ala
20 25 30

Cys Ser Gly Tyr Asp Ala His Ile Leu His Leu Asn Ser Gly Ser Val
35 40 45

Pro Gln Leu Gln Asp Glu Leu Leu Pro Ile Glu Ala Val Asp Leu Arg
50 55 60

Leu Arg Glu His Ala Lys Gln Val Leu Glu Ser Gly Leu Gly Asp Arg
65 70 75 80

Pro Val Pro Ala Pro Glu Ala Ala Val Gly Pro Trp Val Arg Glu Gly
85 90 95

Pro Val Ser Gln Pro Gly Gln Pro Leu Val Glu Pro Val Gly Gln His
100 105 110

His Val Phe Leu Ile Val Arg Ser Asn Trp Asn Met Ser Ser Ser Cys
115 120 125

Thr Ser Thr Ser Asn Thr Glu Ser Ile Arg Arg Arg Phe Ile Cys Ser
130 135 140

Ile Ser Arg Cys Trp Thr Ser
145 150

<210> 162
<211> 90
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 13199 right: 13468 frame: -3 size(aa): 90

<400> 162

Glu Thr Gly Pro Ser Leu Thr Gln Gly Pro Thr Ala Ala Ser Gly Ala
1 5 10 15

Gly Thr Gly Arg Ser Pro Arg Pro Asp Ser Arg Thr Cys Leu Ala Cys
20 25 30

```
Ser Arg Arg Arg Arg Ser Thr Ala Ser Ile Gly Arg Ser Ser Ser Cys
        35                  40                  45

Ser Cys Gly Thr Glu Pro Leu Leu Arg Trp Arg Ile Trp Ala Ser Tyr
    50                  55                  60

Pro Leu His Ala Leu Pro Ser His Leu Arg Arg His Asp Pro Arg Leu
65                  70                  75                  80

Pro Val Gly Pro Gly Ile Gln Pro Ser Phe
                85                  90
```

<210> 163
<211> 312
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 13206 right: 14141 frame: -1 size(aa): 312

<400> 163

```
Pro Arg Pro Ser Ala Pro Ser Ser Pro Ser Thr Gly Pro Ala Pro Gly
1               5                   10                  15

Pro Glu Pro Ile Thr Ala Pro Cys Ala Thr Ser Pro Val Pro Ile Pro
            20                  25                  30

Pro Pro Ser His Asp Thr Pro Asp His Arg Asp Leu Arg Ala Pro Glu
        35                  40                  45

Gly Val Pro His Gln Pro Val Gly Asp Arg Pro Asp Asp Leu Pro Ala
    50                  55                  60

Glu His Arg Arg Thr His Val Ala Arg Leu Ala Pro Val Pro Gly Leu
65                  70                  75                  80

Gly Arg Cys Arg Arg His Ala Pro Ala His Gly Pro Pro Gly Leu Arg
                85                  90                  95

Val Cys Pro Gly Pro Arg Pro Gly Arg Asp Pro Asp Gly Arg Arg Pro
            100                 105                 110

Asp Ala Pro Gln Asp Pro Gly Ala Gln Gly Ala Pro Gly Arg His Arg
        115                 120                 125

Gly Pro Asp Arg Pro Gly Gly Gly Arg Ala Arg Gly Asp His Gly Pro
    130                 135                 140

Gly Gly Gln Arg Ala Leu Glu Val Leu Arg His Arg Arg Gly Arg Pro
145                 150                 155                 160

Val Pro Gln Gly Gln Arg Pro Gly Arg Pro Arg Leu Arg Arg Pro Ala
                165                 170                 175

Pro Ala Asp Gly Ala Asp Glu Thr Ala Pro Asp Gly Leu Gly Val Gly
            180                 185                 190
```

Cys Gly Gly Ala Gly Arg Ala His Val Pro Val Arg Ala Asp Asp Gln
195 200 205

Glu Asp Val Met Leu Pro His Arg Leu His Glu Arg Leu Ala Arg Leu
210 215 220

Arg Asp Trp Ala Leu Ser His Pro Gly Ala Asp Cys Arg Leu Trp Cys
225 230 235 240

Gly Asp Arg Ala Ile Ala Glu Ala Arg Phe Glu Asp Leu Leu Gly Met
245 250 255

Leu Ala Gln Ala Glu Ile Asp Cys Phe Asp Arg Gln Glu Leu Val Leu
260 265 270

Gln Leu Arg Asn Arg Ala Thr Ile Lys Val Glu Asp Met Gly Val Val
275 280 285

Pro Ala Thr Cys Ser Ser Gln Pro Pro Ala Ala Ala Arg Ser Ser Ala
290 295 300

Pro Gly Arg Ala Gly Asp Pro Thr
305 310

<210> 164
<211> 81
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 13207 right: 13449 frame: 2 size(aa): 81

<400> 164

Val Gly Ser Pro Ala Arg Pro Gly Ala Glu Asp Arg Ala Ala Ala Gly
1 5 10 15

Gly Trp Glu Glu His Val Ala Gly Thr Thr Pro Ile Ser Ser Thr Leu
20 25 30

Ile Val Ala Leu Phe Arg Ser Cys Arg Thr Ser Ser Cys Arg Ser Lys
35 40 45

Gln Ser Ile Ser Ala Cys Ala Ser Met Pro Ser Arg Ser Ser Asn Arg
50 55 60

Ala Ser Ala Ile Ala Arg Ser Pro His Gln Arg Arg Gln Ser Ala Pro
65 70 75 80

Gly

<210> 165
<211> 93
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature

<223> >New ORF = left: 13303 right: 13581 frame: -2 size(aa): 93

<400> 165

```
Trp Thr Arg Cys Trp Met Trp Arg Cys Arg Thr Ser Ser Cys Ser Ser
1               5                  10                  15

Ser Ser Gly Arg Ser Arg Arg Arg Asp Ala Ala Pro Gln Ala Pro Arg
            20                  25                  30

Ala Ala Gly Pro Val Glu Arg Leu Gly Pro Leu Ser Pro Arg Gly Arg
        35                  40                  45

Leu Pro Pro Leu Val Arg Gly Pro Gly Asp Arg Arg Gly Pro Ile Arg
    50                  55                  60

Gly Pro Ala Trp His Ala Arg Ala Gly Gly Asp Arg Leu Leu Arg Ser
65                  70                  75                  80

Ala Gly Ala Arg Pro Ala Ala Ala Glu Gln Ser His Tyr
                85                  90
```

<210> 166
<211> 344
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 13307 right: 14338 frame: 3 size(aa): 344

<400> 166

```
Trp Leu Cys Ser Ala Ala Ala Gly Arg Ala Pro Ala Asp Arg Ser Ser
1               5                  10                  15

Arg Ser Pro Pro Ala Arg Ala Cys Gln Ala Gly Pro Arg Ile Gly Pro
            20                  25                  30

Arg Arg Ser Pro Gly Pro Arg Thr Arg Gly Gly Ser Arg Pro Leu Gly
        35                  40                  45

Glu Arg Gly Pro Ser Leu Ser Thr Gly Pro Ala Ala Arg Gly Ala Cys
    50                  55                  60

Gly Ala Ala Ser Arg Leu Leu Asp Arg Pro Leu Glu Leu Glu His Glu
65                  70                  75                  80

Leu Val Leu His Leu His Ile Gln His Arg Val His Gln Ala Pro Phe
                85                  90                  95

His Leu Leu His Gln Gln Val Leu Asp Val Val Gly Val Gly Ala Gln
            100                 105                 110

Ala Val Asp Leu Glu Glu Gln Asp Gly Leu Gly Gly Val Ala Glu Leu
        115                 120                 125

Pro Lys Leu Ser Gly Leu Arg Gly His Gly Arg Leu Glu Leu Gly His
    130                 135                 140
```

```
Leu Arg Asp Asp Leu Gly Leu Asp Ala Gly Gln Glu Leu Leu Glu Leu
145                 150                 155                 160

Arg Gly Leu Val Gly Arg Arg Gly Val Ala Arg Pro Asp Leu Gly Gln
                165                 170                 175

Val Val Asp Gln Gly Lys Leu Ala Gly Leu Ala Asp Arg Val Leu Gly
            180                 185                 190

His Ala Gly Gly Ser Ala Pro Val Pro Ala Gln Glu Pro Asn Ala Pro
        195                 200                 205

His Val Phe Gly Asp Val Leu Arg Val Gly Arg Leu Asp Asp Pro Pro
    210                 215                 220

Pro Ala Asp Val Gly Arg Pro Gln Ala Leu Val Gly Leu Gly Asp Leu
225                 230                 235                 240

Glu Cys His Gly Lys Glu Gly Val Ser Glu Pro Gly Met Trp Arg Met
                245                 250                 255

Ala Pro Leu Ser Ala Arg Ala Gln Glu Arg Ala Arg Leu Met Ala Ser
            260                 265                 270

Leu Ala Arg Met Ala Ser Val Thr Ser Thr Pro Arg Ser Val Ala Arg
        275                 280                 285

Ser Arg Ala Arg Ile Arg Thr Ser Ala Thr Ser Ser Gly Ser Trp Ala
    290                 295                 300

Arg Ser Leu Ala Ile Asn Ser Pro Ile Ser Ser Arg Ser Leu Ala Met
305                 310                 315                 320

Val Arg Arg Gly Gly Gly Arg Gly Ser Gly Gly Gly Ser Arg Arg Arg
                325                 330                 335

Ser Pro Pro Gly Ala Gln Arg Arg
            340
```

<210> 167
<211> 190
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 13511 right: 14080 frame: -3 size(aa): 190

<400> 167

```
Arg Arg His Ala Pro His Pro Arg Phe Arg Tyr Pro Leu Leu Pro Met
1               5                   10                  15

Thr Leu Gln Ile Thr Glu Thr Tyr Glu Arg Leu Arg Ala Ser His Ile
            20                  25                  30

Ser Arg Trp Gly Ile Val Gln Thr Thr Tyr Pro Gln Asn Ile Ala Glu
        35                  40                  45
```

```
His Met Trp Arg Val Trp Leu Leu Cys Arg Asp Trp Gly Ala Ala Ala
    50                  55                  60

Gly Met Pro Gln His Thr Val Arg Gln Ala Cys Glu Phe Ala Leu Val
65                  70                  75                  80

His Asp Leu Ala Glu Ile Arg Thr Gly Asp Ala Pro Thr Pro His Lys
                85                  90                  95

Thr Pro Glu Leu Lys Glu Leu Leu Ala Gly Ile Glu Ala Gln Ile Val
            100                 105                 110

Pro Glu Val Ala Glu Leu Glu Ala Thr Met Ala Pro Glu Ala Arg Glu
        115                 120                 125

Leu Trp Lys Phe Cys Asp Thr Ala Glu Ala Val Leu Phe Leu Lys Val
    130                 135                 140

Asn Gly Leu Gly Ala His Ala Tyr Asp Val Gln His Leu Leu Met Glu
145                 150                 155                 160

Gln Met Lys Arg Arg Leu Met Asp Ser Val Leu Asp Val Glu Val Gln
                165                 170                 175

Asp Glu Leu Met Phe Gln Phe Glu Arg Thr Ile Lys Lys Thr
            180                 185                 190
```

<210> 168
<211> 130
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 13609 right: 13998 frame: -2 size(aa): 130

<400> 168

```
Gly Arg Pro Thr Ser Ala Gly Gly Gly Ser Ser Arg Arg Pro Thr Arg
1               5                   10                  15

Arg Thr Ser Pro Asn Thr Cys Gly Ala Phe Gly Ser Cys Ala Gly Thr
            20                  25                  30

Gly Ala Leu Pro Pro Ala Cys Pro Ser Thr Arg Ser Ala Arg Pro Ala
        35                  40                  45

Ser Leu Pro Trp Ser Thr Thr Trp Pro Arg Ser Gly Arg Ala Thr Pro
    50                  55                  60

Arg Arg Pro Thr Arg Pro Arg Ser Ser Arg Ser Ser Trp Pro Ala Ser
65                  70                  75                  80

Arg Pro Arg Ser Ser Arg Arg Trp Pro Ser Ser Arg Arg Pro Trp Pro
                85                  90                  95

Arg Arg Pro Glu Ser Phe Gly Ser Ser Ala Thr Pro Pro Arg Pro Ser
            100                 105                 110

Cys Ser Ser Arg Ser Thr Ala Trp Ala Pro Thr Pro Thr Thr Ser Ser
```

115 120 125

Thr Cys
130

<210> 169
<211> 109
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 13629 right: 13955 frame: 1 size(aa): 109

<400> 169

Ala Trp Ala Pro Arg Pro Leu Thr Leu Arg Asn Arg Thr Ala Ser Ala
1 5 10 15

Val Ser Gln Asn Phe Gln Ser Ser Leu Ala Ser Gly Ala Met Val Ala
20 25 30

Ser Ser Ser Ala Thr Ser Gly Thr Ile Trp Ala Ser Met Pro Ala Arg
35 40 45

Ser Ser Leu Ser Ser Gly Val Leu Trp Gly Val Gly Ala Ser Pro Val
50 55 60

Arg Ile Ser Ala Arg Ser Trp Thr Arg Ala Asn Ser Gln Ala Trp Arg
65 70 75 80

Thr Val Cys Trp Gly Met Pro Ala Ala Ala Pro Gln Ser Arg His Arg
85 90 95

Ser Gln Thr Arg His Met Cys Ser Ala Met Phe Cys Gly
100 105

<210> 170
<211> 67
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 13783 right: 13983 frame: 2 size(aa): 67

<400> 170

Ala Pro Gly Ser Cys Gly Ala Ser Gly Arg Arg Pro Ser Gly Ser Arg
1 5 10 15

Pro Gly Arg Gly Pro Gly Gln Thr Arg Arg Pro Gly Gly Pro Cys Ala
20 25 30

Gly Ala Cys Arg Arg Gln Arg Pro Ser Pro Gly Thr Gly Ala Lys Arg
35 40 45

Ala Thr Cys Val Arg Arg Cys Ser Ala Gly Arg Ser Ser Gly Arg Ser
50 55 60

Pro Thr Gly
65

<210> 171
<211> 131
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 14023 right: 14415 frame: 2 size(aa): 131

<400> 171

Ser Gly Val Ser Trp Glu Gly Gly Gly Ile Gly Thr Gly Asp Val Ala
1 5 10 15

His Gly Ala Val Ile Gly Ser Gly Pro Gly Ala Gly Pro Val Asp Gly
20 25 30

Glu Leu Gly Ala Asp Gly Leu Gly His Val Asp Ala Gln Glu Arg Arg
35 40 45

Gln Val Glu Gly Gln Asp Gln Asp Val Gly His Leu Glu Arg Val Val
50 55 60

Gly Pro Val Ala Gly Asp Gln Leu Pro Asp Leu Leu Gln Glu Leu Gly
65 70 75 80

Asp Gly Ala Pro Gly Arg Arg Ser Gly Phe Arg Gly Trp Ile Gln Ala
85 90 95

Ala Ile Ser Ala Trp Ser Ser Ala Thr Val Ala Gly Ile Gln Thr Phe
100 105 110

Glu Leu Cys Pro Gly Gly Gly Val Val Asp Val Gly Asp Phe Gly Pro
115 120 125

Lys Pro Thr
130

<210> 172
<211> 98
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 14035 right: 14328 frame: -2 size(aa): 98

<400> 172

Ala Pro Gly Gly Asp Arg Arg Leu Asp Pro Pro Pro Glu Pro Arg Pro
1 5 10 15

Pro Pro Arg Arg Thr Ile Ala Lys Leu Leu Glu Glu Ile Gly Glu Leu
20 25 30

```
Ile Ala Ser Asp Arg Ala His Asp Pro Leu Glu Val Ala Asp Val Leu
        35                  40                  45

Ile Leu Ala Leu Asp Leu Ala Thr Leu Leu Gly Val Asp Val Thr Glu
    50                  55                  60

Ala Ile Arg Ala Lys Leu Ala Ile Asn Arg Ala Arg Ser Trp Ala Arg
65                  70                  75                  80

Ala Asp Asn Gly Ala Met Arg His Ile Pro Gly Ser Asp Thr Pro Ser
                85                  90                  95

Phe Pro
```

<210> 173
<211> 69
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 14084 right: 14290 frame: -3 size(aa): 69

<400> 173

```
Thr Pro Thr Ala Ala Pro Ala His His Arg Gln Ala Pro Gly Gly Asp
1               5                   10                  15

Arg Gly Val Asp Arg Gln Arg Pro Gly Pro Arg Pro Ala Arg Gly Gly
            20                  25                  30

Arg Arg Pro Asp Pro Gly Pro Arg Pro Gly Asp Ala Pro Gly Arg Arg
        35                  40                  45

Arg Asp Arg Gly His Pro Arg Gln Ala Arg His Gln Pro Gly Pro Leu
    50                  55                  60

Leu Gly Pro Ser Arg
65
```

<210> 174
<211> 93
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 14115 right: 14393 frame: 1 size(aa): 93

<400> 174

```
Trp Arg Ala Trp Arg Gly Trp Pro Arg Ser Arg Arg Arg Pro Gly Ala
1               5                   10                  15

Ser Pro Gly Arg Gly Pro Gly Ser Gly Arg Arg Pro Pro Arg Ala Gly
            20                  25                  30

Arg Gly Pro Gly Arg Trp Arg Ser Thr Pro Arg Ser Pro Pro Gly Ala
```

35 40 45

Trp Arg Trp Cys Ala Gly Ala Ala Val Gly Val Gln Gly Val Asp Pro
50 55 60

Gly Gly Asp Leu Arg Leu Glu Leu Ser Asp Gly Ser Gly His Thr Asn
65 70 75 80

Leu Arg Ala Leu Pro Gly Trp Gly Cys Gly Arg Arg Arg
85 90

<210> 175
<211> 419
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 14235 right: 15491 frame: -1 size(aa): 419

<400> 175

Thr Thr Ser Gly Ala Ser Ser Arg Arg Arg Pro Ser Arg Arg Gly Pro
1 5 10 15

Gly Val Pro Ser Trp Thr Ala Asp Pro Gly Arg Ala Met Leu Ser Ile
20 25 30

Pro Pro Tyr Tyr Arg Val Lys Asn Cys Asn Leu Ile Val Asp Cys Gln
35 40 45

Tyr Gly Ser Thr Gly Lys Gly Leu Leu Ala Gly Tyr Leu Gly Ala Leu
50 55 60

Glu Ala Pro Gln Val Leu Cys Met Ala Pro Ser Pro Asn Ala Gly His
65 70 75 80

Thr Leu Val Glu Glu Asp Gly Thr Ala Arg Val His Lys Met Leu Pro
85 90 95

Leu Gly Ile Thr Ser Pro Ser Leu Glu Arg Ile Tyr Leu Gly Pro Gly
100 105 110

Ser Val Ile Asp Met Asp Arg Leu Leu Glu Glu Tyr Leu Ala Leu Pro
115 120 125

Arg Gln Val Glu Leu Trp Val His Gln Asn Ala Ala Val Val Leu Gln
130 135 140

Glu His Arg Asp Glu Glu Ala Ala Gly Gly Leu Ala Pro Gly Ser Thr
145 150 155 160

Arg Ser Gly Ala Gly Ser Ala Phe Ile Ala Lys Ile Arg Arg Arg Pro
165 170 175

Gly Thr Leu Leu Phe Gly Glu Ala Val Arg Asp His Pro Leu His Gly
180 185 190

Val Val Arg Val Val Asp Thr Arg Thr Ala Gln Asp Met Leu Phe Arg
195 200 205

```
Thr Arg Ser Ile Gln Ala Glu Gly Cys Gln Gly Tyr Ser Leu Ser Val
    210                 215                 220

His His Gly Ala Tyr Pro Tyr Cys Thr Ala Arg Asp Val Thr Thr Ala
225                 230                 235                 240

Gln Leu Ile Ala Asp Cys Gly Leu Pro Tyr Asp Val Ala Arg Ile Ala
                245                 250                 255

Arg Val Val Gly Ser Met Arg Thr Tyr Pro Ile Arg Val Ala Asn Arg
            260                 265                 270

Pro Glu Ala Gly Glu Trp Ser Ala Pro Cys Tyr Pro Asp Ser Val Glu
        275                 280                 285

Cys Gln Phe Ala Asp Leu Gly Leu Glu Gln Glu Tyr Thr Thr Val Thr
    290                 295                 300

Lys Leu Pro Arg Arg Ile Phe Thr Phe Ser Ala Ile Gln Ala His Glu
305                 310                 315                 320

Ala Ile Ala Gln Asn Gly Val Asp Glu Val Phe Leu Asn Phe Ala Gln
                325                 330                 335

Tyr Pro Pro Ser Leu Gly Ala Leu Glu Asp Ile Leu Asp Ala Ile Glu
            340                 345                 350

Ala Arg Ala Glu Val Thr Tyr Val Gly Phe Gly Pro Lys Ser Pro Thr
        355                 360                 365

Ser Thr Thr Pro Pro Pro Gly Gln Ser Ser Lys Val Cys Met Pro Ala
    370                 375                 380

Thr Val Ala Glu Leu Gln Ala Glu Ile Ala Ala Trp Ile His Pro Leu
385                 390                 395                 400

Asn Pro Asp Arg Arg Pro Gly Ala Pro Ser Pro Ser Ser Trp Arg Arg
                405                 410                 415

Ser Gly Ser


<210>  176
<211>  73
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  >New ORF = left: 14332 right: 14550 frame: -2 size(aa): 73


<400>  176

Arg His Pro Gly Ala Arg Gly His Arg Pro Glu Arg Arg Gly Arg Gly
1               5                   10                  15

Val Pro Gln Leu Arg Pro Val Pro Ala Gln Pro Arg Gly Ser Arg Gly
            20                  25                  30
```

```
His Pro Arg Arg His Arg Gly Gln Gly Gly Gly Asp Leu Arg Arg Leu
        35                  40                  45

Arg Pro Glu Val Thr Asp Val Tyr His Thr Pro Thr Arg Ala Glu Leu
    50                  55                  60

Glu Gly Leu Tyr Ala Arg Tyr Arg Arg
65                  70
```

<210> 177
<211> 244
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 14397 right: 15128 frame: 1 size(aa): 244

<400> 177

```
Leu Arg Ala Glu Ala Asp Val Gly His Leu Arg Pro Gly Leu Asp Gly
1               5                   10                  15

Val Glu Asp Val Leu Glu Ser Pro Glu Ala Gly Arg Val Leu Gly Glu
            20                  25                  30

Val Glu Glu His Leu Val His Ala Val Leu Gly Asp Gly Leu Val Arg
        35                  40                  45

Leu Asp Gly Ala Lys Arg Lys Asp Pro Ala Gly Glu Leu Arg His Gly
    50                  55                  60

Gly Val Leu Leu Leu Gln Ala Gln Val Gly Glu Leu Ala Leu Asp Arg
65                  70                  75                  80

Val Gly Val Ala Gly Gly Ala Pro Leu Thr Gly Leu Arg Ala Val Gly
                85                  90                  95

His Pro Asp Arg Val Gly Pro His Arg Ala Asp Asp Pro Gly Asp Pro
            100                 105                 110

Gly Asp Val Val Gly Gln Ala Ala Val Gly Asp Gln Leu Gly Arg Arg
        115                 120                 125

Asp Val Pro Gly Gly Ala Val Gly Val Gly Pro Val Val Asp Arg Gln
    130                 135                 140

Ala Val Ala Leu Ala Pro Leu Gly Leu Asp Arg Pro Gly Pro Lys Gln
145                 150                 155                 160

His Val Leu Gly Gly Pro Gly Val Asp Asp Pro Asp Asp Thr Val Glu
                165                 170                 175

Arg Val Ile Pro Asp Gly Leu Thr Glu Gln Glu Arg Pro Arg Ala Ala
            180                 185                 190

Ala Asp Leu Gly Asp Lys Arg Arg Ala Gly Ala Ala Ala Gly Arg Ala
        195                 200                 205

Trp Gly Gln Ala Pro Gly Gly Leu Leu Ile Pro Val Leu Leu Glu Asp
```

210 215 220

Asp Gly Gly Val Leu Val Asp Pro Glu Leu His Leu Pro Gly Glu Gly
225 230 235 240

Gln Val Leu Leu

<210> 178
<211> 75
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 14419 right: 14643 frame: 2 size(aa): 75

<400> 178

Val Thr Ser Ala Leu Ala Ser Met Ala Ser Arg Met Ser Ser Arg Ala
1 5 10 15

Pro Arg Leu Gly Gly Tyr Trp Ala Lys Leu Arg Asn Thr Ser Ser Thr
20 25 30

Pro Phe Trp Ala Met Ala Ser Cys Ala Trp Met Ala Leu Asn Val Lys
35 40 45

Ile Arg Arg Gly Ser Phe Val Thr Val Val Tyr Ser Cys Ser Arg Pro
50 55 60

Arg Ser Ala Asn Trp His Ser Thr Glu Ser Gly
65 70 75

<210> 179
<211> 53
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 14423 right: 14581 frame: -3 size(aa): 53

<400> 179

Arg Ser Ser Pro Ala Gly Ser Leu Arg Leu Ala Pro Ser Arg Arg Thr
1 5 10 15

Arg Pro Ser Pro Arg Thr Ala Trp Thr Arg Cys Ser Ser Thr Ser Pro
20 25 30

Ser Thr Arg Pro Ala Ser Gly Leu Ser Arg Thr Ser Ser Thr Pro Ser
35 40 45

Arg Pro Gly Arg Arg
50

<210> 180
<211> 73

<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 14561 right: 14779 frame: 3 size(aa): 73

<400> 180

Arg Ser Gly Gly Gly Ala Ser Ser Arg Trp Cys Thr Pro Ala Pro Gly
1 5 10 15

Pro Gly Arg Arg Thr Gly Thr Arg Pro Ser Arg Gly Ser Arg Gly Arg
20 25 30

Ser Thr His Arg Pro Pro Gly Gly Trp Pro Pro Gly Ser Gly Arg Ser
35 40 45

Ala Ser Ser Arg Arg Pro Gly Arg Ser Gly Arg Arg Arg Arg Ala Gly
50 55 60

Arg Ser Arg Arg Ser Ala Gly Pro Ser
65 70

<210> 181
<211> 60
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 14585 right: 14764 frame: -3 size(aa): 60

<400> 181

Ser Pro Thr Ala Ala Cys Pro Thr Thr Ser Pro Gly Ser Pro Gly Ser
1 5 10 15

Ser Ala Arg Cys Gly Pro Thr Arg Ser Gly Trp Pro Thr Ala Arg Arg
20 25 30

Pro Val Ser Gly Ala Pro Pro Ala Thr Pro Thr Arg Ser Ser Ala Ser
35 40 45

Ser Pro Thr Trp Ala Trp Ser Arg Ser Thr Pro Pro
50 55 60

<210> 182
<211> 93
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 14665 right: 14943 frame: -2 size(aa): 93

<400> 182

Gly Arg Pro Gly Ser Pro Ala Pro Arg Cys Arg Pro Gly Arg Arg His
1 5 10 15

Pro Asp Arg Pro Gly His Ala Val Ser Asp Pro Val Asp Pro Gly Arg
20 25 30

Gly Val Pro Gly Leu Gln Pro Val Gly Pro Pro Arg Gly Leu Pro Leu
35 40 45

Leu His Arg Pro Gly Arg His Asp Gly Pro Ala Asp Arg Arg Leu Arg
50 55 60

Pro Ala Leu Arg Arg Arg Pro Asp Arg Pro Gly Arg Arg Leu Asp Ala
65 70 75 80

Asp Leu Pro Asp Pro Gly Gly Gln Pro Pro Gly Gly Arg
85 90

<210> 183
<211> 120
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 14768 right: 15127 frame: -3 size(aa): 120

<400> 183

Arg Ser Thr Trp Pro Ser Pro Gly Arg Trp Ser Ser Gly Ser Thr Arg
1 5 10 15

Thr Pro Pro Ser Ser Ser Arg Ser Thr Gly Met Arg Arg Pro Pro Gly
20 25 30

Ala Trp Pro Gln Ala Arg Pro Ala Ala Ala Pro Ala Arg Arg Leu Ser
35 40 45

Pro Arg Ser Ala Ala Ala Leu Gly Arg Ser Cys Ser Val Arg Pro Ser
50 55 60

Gly Ile Thr Arg Ser Thr Val Ser Ser Gly Ser Ser Thr Pro Gly Pro
65 70 75 80

Pro Arg Thr Cys Cys Phe Gly Pro Gly Arg Ser Arg Pro Arg Gly Ala
85 90 95

Arg Ala Thr Ala Cys Arg Ser Thr Thr Gly Pro Thr Pro Thr Ala Pro
100 105 110

Pro Gly Thr Ser Arg Arg Pro Ser
115 120

<210> 184
<211> 68
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature

<223> >New ORF = left: 14783 right: 14986 frame: 3 size(aa): 68

<400> 184

Arg Pro Gly Arg Cys Ser Arg Gly Arg Pro Arg Gly Gly Pro Thr Gly
1 5 10 15

Cys Ser Pro Gly Thr Pro Arg Pro Gly Ser Thr Gly Ser Glu Thr Ala
20 25 30

Cys Pro Gly Arg Ser Gly Cys Arg Arg Pro Gly Arg His Arg Gly Ala
35 40 45

Gly Asp Pro Gly Arg Pro His Arg Thr Gly Ala Ser Gln Gly Gly Gly
50 55 60

Gly Ser Trp Arg
65

<210> 185
<211> 79
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 14932 right: 15168 frame: 2 size(aa): 79

<400> 185

Ser Arg Thr Ala Ser Pro Asn Arg Ser Val Pro Gly Arg Arg Arg Ile
1 5 10 15

Leu Ala Ile Asn Ala Glu Pro Ala Pro Leu Arg Val Glu Pro Gly Ala
20 25 30

Arg Pro Pro Ala Ala Ser Ser Ser Arg Cys Ser Trp Arg Thr Thr Ala
35 40 45

Ala Phe Trp Trp Thr Gln Ser Ser Thr Cys Arg Gly Arg Ala Arg Tyr
50 55 60

Ser Ser Arg Ser Arg Ser Met Ser Ile Thr Glu Pro Gly Pro Arg
65 70 75

<210> 186
<211> 68
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 14990 right: 15193 frame: 3 size(aa): 68

<400> 186

Thr Pro Ser Arg Arg Arg Cys Gly Ser Ser Leu Gly Pro Gly Pro Arg
1 5 10 15

Arg Pro Pro His Pro Gly Ala Pro Gly Gly Arg Arg Arg Arg Ser Gly
20 25 30

Gly Pro Arg Ala Pro Pro Ala Gly Gly Gly Pro Gly Thr Pro Leu Gly
35 40 45

Ala Gly Pro Cys Arg Ser Pro Ser Arg Gly Pro Gly Arg Ser Ala Gln
50 55 60

Gly Trp Gly Trp
65

<210> 187
<211> 113
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 15132 right: 15470 frame: 1 size(aa): 113

<400> 187

Glu Pro Val His Val Asp His Arg Ala Gly Ala Gln Val Asp Pro Leu
1 5 10 15

Lys Ala Gly Ala Gly Asp Ala Gln Gly Gln His Leu Val Asp Ala Gly
20 25 30

Gly Ala Val Leu Leu Asp Gln Gly Val Ala Gly Val Gly Ala Gly Cys
35 40 45

His Ala Gln His Leu Arg Gly Leu Glu Arg Pro Gln Val Ala Gly Gln
50 55 60

Glu Pro Leu Ala Gly Ala Ala Val Leu Ala Val Asp Asp Gln Val Ala
65 70 75 80

Val Leu His Ala Ile Val Gly Gly Asn Gly Gln His Ser Thr Ala Gly
85 90 95

Val Ser Arg Pro Gly Trp Asp Ala Trp Ala Ser Pro Arg Trp Pro Ser
100 105 110

Pro

<210> 188
<211> 70
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 15152 right: 15361 frame: -3 size(aa): 70

<400> 188

Ser Ser Thr Ala Ser Thr Ala Ala Pro Ala Arg Gly Ser Trp Pro Ala
1 5 10 15

Thr Trp Gly Arg Ser Arg Pro Arg Arg Cys Cys Ala Trp His Pro Ala
20 25 30

Pro Thr Pro Ala Thr Pro Trp Ser Arg Arg Thr Ala Pro Pro Ala Ser
35 40 45

Thr Arg Cys Cys Pro Trp Ala Ser Pro Ala Pro Ala Leu Ser Gly Ser
50 55 60

Thr Trp Ala Pro Ala Arg
65 70

<210> 189
<211> 80
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 15181 right: 15420 frame: -2 size(aa): 80

<400> 189

Pro Arg Pro Cys Tyr Ala Val His Ser Pro Leu Leu Ser Arg Glu Glu
1 5 10 15

Leu Gln Pro Asp Arg Arg Leu Pro Val Arg Gln His Arg Gln Gly Ala
20 25 30

Pro Gly Arg Leu Pro Gly Gly Ala Arg Gly Pro Ala Gly Ala Val His
35 40 45

Gly Thr Gln Pro Gln Arg Arg Pro His Pro Gly Arg Gly Gly Arg His
50 55 60

Arg Pro Arg Pro Gln Asp Ala Ala Pro Gly His His Gln Pro Gln Pro
65 70 75 80

<210> 190
<211> 70
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 15197 right: 15406 frame: 3 size(aa): 70

<400> 190

Cys Pro Gly Ala Ala Ser Cys Gly Arg Gly Arg Cys Arg Pro Pro Arg
1 5 10 15

Pro Gly Cys Gly Arg Arg Trp Gly Trp Val Pro Cys Thr Ala Pro Ala
20 25 30

Gly Pro Arg Ala Pro Pro Gly Ser Arg Pro Gly Ala Pro Cys Arg Cys

35 40 45

Cys Arg Thr Gly Ser Arg Arg Ser Gly Cys Ser Ser Ser Arg Asp Ser
50 55 60

Arg Gly Glu Trp Thr Ala
65 70

<210> 191
<211> 337
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 15380 right: 16390 frame: -3 size(aa): 337

<400> 191

Leu Pro Val Leu Glu Pro Gly Arg Gly Arg Pro Val Arg Pro Gln Ala
1 5 10 15

Leu His Leu Arg Val Glu Glu Ala Glu Pro Gln Arg Gln Ala Leu His
20 25 30

Leu Ala Pro Asp Pro Ala Ala Pro Glu Arg Val Pro Arg Pro Ala Pro
35 40 45

Ala Ala Ala Pro Gly Pro Gly Pro Pro Gly Pro Cys Ala Pro Gly Ala
50 55 60

Pro Gly Arg Cys Pro Ser Pro Ala Leu Leu Glu Pro Pro Asp Arg Pro
65 70 75 80

Val Gly Asp Ala Pro Ala Arg Pro Gly Pro Gly Thr Arg Thr Gly Arg
85 90 95

Ala Ala Ala Pro Ala Gly Val Glu Pro Pro Asp Pro Ala Val Gly Asp
100 105 110

Pro Gly Ser Pro Ser Arg Ser Gly Pro Gly Pro Gly Gly Pro Gly Leu
115 120 125

Arg Ala Arg Arg Leu Pro Gly Pro Ala Val Arg Pro Ser Gly Arg Pro
130 135 140

Ala Ala Asp Pro Gly Pro Gly Arg Arg Ser Ala Pro Arg Arg Arg Pro
145 150 155 160

Gly Ala Asp Arg Pro Ala Pro Gly Val Ala Val Pro Gly Ala Gly Pro
165 170 175

Asp Arg Arg Pro Gly Arg Gly Arg Asn Pro Val Leu Thr Asp Arg Ser
180 185 190

Gln Gly Leu Arg Lys Gly Pro Leu Pro Val Gln Thr Thr Pro Pro Leu
195 200 205

His Pro Arg Glu Ser Gln His Pro Arg Arg Arg Gln Ala Ala Ser Asp
210 215 220

```
Arg Tyr Gln Ala Ala Arg Ile His Arg Ala Ser Lys Arg Gly Arg Asp
225                 230                 235                 240

Pro Gly His Gly Arg Leu Ala His Arg Arg Pro Arg Gln Ile His Pro
                245                 250                 255

Pro Arg Gln Arg Gln Pro Gly Ser Pro Cys Cys His Pro Pro Gly His
            260                 265                 270

Pro Gln His Leu Gly Gly Arg Pro Ala Cys His Asp Pro Gly Phe Leu
        275                 280                 285

Gly Leu Asp Arg Glu Ala Pro Ala Asp Thr Pro Glu Leu His Pro Gly
    290                 295                 300

Pro Val Gln Gly Glu Gly His Arg Gly Glu Ala Gln Ala Ser His Pro
305                 310                 315                 320

Gly Arg Leu Thr Pro Ala Val Leu Cys Cys Pro Phe Pro Pro Thr Ile
                325                 330                 335

Ala
```

<210> 192
<211> 386
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 15391 right: 16548 frame: 2 size(aa): 386

<400> 192

```
Gly Gly Met Asp Ser Ile Ala Arg Pro Gly Ser Ala Val Gln Asp Gly
1               5                   10                  15

Thr Pro Gly Pro Leu Leu Asp Gly Leu Leu Leu Glu Leu Ala Pro Asp
            20                  25                  30

Val Val Gln Val Cys Leu Pro Glu Leu Leu Gly Pro Val Pro Lys Thr
        35                  40                  45

Leu Gly His Gly Arg Gln Ala Ala Leu Pro Gly Ala Val Asp Asp Pro
    50                  55                  60

Ala Asp Asp Ser Met Glu Ile Pro Ala Ala Val Val Ser Ala Asp Glu
65                  70                  75                  80

Phe Val Glu Ala Val Asp Ala Pro Gly Asp His Ala Gln Asp Leu Gly
                85                  90                  95

Leu Ser Leu Lys Leu Gly Val Ser Ser Gln Leu Gly Ser Asp Leu Thr
            100                 105                 110

Gln Pro Asp Gly Gly Val Gly Val Glu Thr His Gly Gly Gly Val Val
        115                 120                 125
```

Glu Trp Phe Val Arg Gly Gly Ala Pro Cys Gly Ala Pro Gly Ile Asp
130 135 140

Arg Ser Glu Arg Asp Phe Val Leu Ala Gln Asp Ala Gly Arg Gly Arg
145 150 155 160

Arg Leu Gly Leu Pro His Arg Gly Leu Ala Gly Arg His Arg Gly Ala
165 170 175

Cys Val Glu Arg Cys Ala Asp Leu Gly Arg Gly Arg Leu Arg Gly Gly
180 185 190

Arg Arg Gly Val Arg Leu Ala Arg Gly Ala Ala Leu Pro Val Gly Arg
195 200 205

Gly Arg Arg Gly Arg Gly Leu Ser Gly Arg Gly Ser Arg Gly His Pro
210 215 220

Leu Leu Gly Leu Gly Val Pro His Arg Leu Gly Arg Leu Arg Gly Arg
225 230 235 240

Cys Gly Cys Arg Gly Arg Gly Gly Leu Gly Arg His Pro Leu Ala Gly
245 250 255

Leu Gly Val Pro Val Gly Leu Gly Arg Gly Thr Gly Arg Gly Arg Leu
260 265 270

Gly Arg Met Gly Leu Gly Gly Arg Gly Leu Ala Leu Leu Leu Gly Gln
275 280 285

Ala Glu Glu Arg Val Pro Gly Arg Leu Asp Leu Glu Arg Asp Val Arg
290 295 300

Leu Ala Val Ala Ala Leu Leu Leu Pro Pro Gly Asp Val Glu Leu Glu
305 310 315 320

Ala Val Leu Val Gly Leu Gly Pro Val Arg Glu Gln Val Val Ser Glu
325 330 335

Gly Gly Asp Val Leu Gly Arg Asp Gly Ala Gly Ala Ala Val Val Asp
340 345 350

Pro Val Leu Ala Val Val Asp Glu Gln Gly Ala Val Glu Gly Gly Gln
355 360 365

Leu Gly Gly Leu Gly Leu Gly Leu Gly Leu Gly Leu Ala Val Gly Gly
370 375 380

Leu His
385

<210> 193
<211> 134
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 15424 right: 15825 frame: -2 size(aa): 134

<400> 193

Pro Ile Asp Pro Arg Gly Ser Ala Arg Gly Pro Ser Pro Tyr Lys Pro
1 5 10 15

Leu His His Ser Thr Pro Val Ser Leu Asn Thr His Ala Ala Val Arg
20 25 30

Leu Arg Gln Ile Ala Thr Lys Leu Arg Gly Tyr Thr Glu Leu Gln Arg
35 40 45

Glu Ala Glu Ile Leu Gly Met Val Ala Trp Arg Ile Asp Gly Leu Asp
50 55 60

Lys Phe Ile Arg Arg Asp Asn Gly Ser Arg Asp Leu His Ala Val Ile
65 70 75 80

Arg Arg Val Ile His Ser Thr Trp Glu Gly Gly Leu Pro Ala Met Thr
85 90 95

Gln Gly Phe Trp Asp Trp Thr Glu Lys Leu Arg Gln Thr His Leu Asn
100 105 110

Tyr Ile Arg Gly Gln Phe Lys Glu Lys Ala Ile Glu Glu Arg Pro Arg
115 120 125

Arg Pro Ile Leu Asp Gly
130

<210> 194
<211> 65
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 15491 right: 15685 frame: 3 size(aa): 65

<400> 194

Phe Arg Cys Val Cys Arg Ser Phe Ser Val Gln Ser Gln Lys Pro Trp
1 5 10 15

Val Met Ala Gly Arg Pro Pro Ser Gln Val Leu Trp Met Thr Arg Arg
20 25 30

Met Thr Ala Trp Arg Ser Arg Leu Pro Leu Ser Arg Arg Met Asn Leu
35 40 45

Ser Arg Pro Ser Met Arg Gln Ala Thr Met Pro Arg Ile Ser Ala Ser
50 55 60

Leu
65

<210> 195
<211> 71
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 15543 right: 15755 frame: -1 size(aa): 71

<400> 195

Val Ser Thr Pro Thr Pro Pro Ser Gly Cys Val Arg Ser Leu Pro Ser
1 5 10 15

Cys Glu Asp Thr Pro Ser Phe Lys Glu Arg Pro Arg Ser Trp Ala Trp
20 25 30

Ser Pro Gly Ala Ser Thr Ala Ser Thr Asn Ser Ser Ala Glu Thr Thr
35 40 45

Ala Ala Gly Ile Ser Met Leu Ser Ser Ala Gly Ser Ser Thr Ala Pro
50 55 60

Gly Arg Ala Ala Cys Leu Pro
65 70

<210> 196
<211> 94
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 15725 right: 16006 frame: 3 size(aa): 94

<400> 196

Arg Ser Leu Thr Ala Ala Trp Val Leu Arg Leu Thr Gly Val Glu Trp
1 5 10 15

Trp Ser Gly Leu Tyr Gly Glu Gly Pro Leu Ala Glu Pro Leu Gly Ser
20 25 30

Ile Gly Gln Asn Gly Ile Ser Ser Ser Pro Arg Thr Pro Val Gly Ala
35 40 45

Gly Ala Trp Asp Cys His Thr Gly Gly Trp Pro Val Gly Thr Gly Ala
50 55 60

Pro Ala Trp Ser Ala Ala Pro Thr Trp Ala Gly Val Gly Cys Gly Ala
65 70 75 80

Ala Gly Gly Ala Tyr Gly Trp Pro Gly Glu Pro Pro Cys Pro
85 90

<210> 197
<211> 198
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 15753 right: 16346 frame: 1 size(aa): 198

<400> 197

Asp Ser Arg Gly Trp Ser Gly Gly Val Val Cys Thr Gly Arg Gly Pro
1 5 10 15

Leu Arg Ser Pro Trp Asp Arg Ser Val Arg Thr Gly Phe Arg Pro Arg
20 25 30

Pro Gly Arg Arg Ser Gly Pro Ala Pro Gly Thr Ala Thr Pro Gly Ala
35 40 45

Gly Arg Ser Ala Pro Gly Arg Leu Arg Gly Ala Leu Arg Arg Pro Gly
50 55 60

Pro Gly Ser Ala Ala Gly Arg Pro Glu Gly Arg Thr Ala Gly Pro Gly
65 70 75 80

Ser Arg Leu Ala Arg Arg Pro Gly Pro Pro Gly Pro Gly Pro Glu Arg
85 90 95

Glu Gly Leu Pro Gly Ser Pro Thr Ala Gly Ser Gly Gly Ser Thr Pro
100 105 110

Ala Gly Ala Ala Ala Arg Pro Val Arg Val Pro Gly Pro Gly Arg Ala
115 120 125

Gly Ala Ser Pro Thr Gly Arg Ser Gly Gly Ser Ser Arg Ala Gly Glu
130 135 140

Gly His Arg Pro Gly Ala Pro Gly Ala His Gly Pro Gly Gly Pro Gly
145 150 155 160

Pro Gly Ala Ala Ala Gly Ala Gly Arg Gly Thr Arg Ser Gly Ala Ala
165 170 175

Gly Ser Gly Ala Arg Cys Lys Ala Cys Arg Cys Gly Ser Ala Ser Ser
180 185 190

Thr Arg Arg Cys Arg Ala
195

<210> 198
<211> 99
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 15759 right: 16055 frame: -1 size(aa): 99

<400> 198

Pro Arg Glu Pro Leu Pro Leu Arg Pro Arg Pro Arg Arg Pro Arg Pro
1 5 10 15

Thr Gly Lys Ala Ala Pro Arg Ala Ser Arg Thr Pro Leu Arg Pro Pro
20 25 30

Arg Ser Arg Pro Arg Pro Arg Ser Ala Gln Arg Ser Thr Gln Ala Pro

35 40 45

Arg Cys Arg Pro Ala Ser Pro Arg Cys Gly Ser Pro Arg Arg Arg Pro
50 55 60

Arg Pro Ala Ser Trp Ala Arg Thr Lys Ser Arg Ser Asp Arg Ser Ile
65 70 75 80

Pro Gly Ala Pro Gln Gly Ala Pro Pro Arg Thr Asn His Ser Thr Thr
85 90 95

Pro Pro Pro

<210> 199
<211> 257
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 15829 right: 16599 frame: -2 size(aa): 257

<400> 199

Arg Val Arg Pro Leu Ser Arg Thr Thr Thr Thr Pro Asn Arg Ser Leu
1 5 10 15

Ser Met Gln Ala Pro Tyr Gly Gln Pro Gln Pro Gln Pro Gln Ala Gln
20 25 30

Ala Pro Gln Leu Pro Ala Leu Asn Gly Ser Leu Phe Val Asp Asp Ser
35 40 45

Gln Asn Arg Ile Asp Tyr Ser Gly Ser Cys Thr Ile Thr Ala Gln Asp
50 55 60

Val Ala Ala Leu Ala Asp Tyr Leu Phe Ser Asn Arg Ala Glu Ala Asp
65 70 75 80

Gln Tyr Gly Leu Lys Leu Tyr Ile Ser Gly Trp Lys Lys Gln Ser Arg
85 90 95

Asn Gly Lys Pro Tyr Ile Ser Leu Gln Ile Gln Pro Pro Arg Asn Ala
100 105 110

Phe Leu Gly Leu Pro Gln Gln Gln Arg Gln Ala Pro Ala Pro Gln Ala
115 120 125

His Ala Pro Gln Ala Pro Pro Ala Gly Ala Pro Pro Gln Pro Tyr Trp
130 135 140

Asn Pro Gln Thr Gly Gln Trp Val Thr Pro Gln Pro Ala Pro Ala Pro
145 150 155 160

Ala Pro Ala Pro Ala Ala Gln Pro Pro Gln Pro Val Trp Asn Pro Gln
165 170 175

Thr Gln Gln Trp Val Thr Pro Gly Ala Pro Pro Ala Gln Ala Pro Ala
180 185 190

```
Pro Ala Ala Pro Ala Tyr Gly Gln Gly Gly Ser Pro Gly Gln Pro Tyr
        195                 200                 205

Ala Pro Pro Ala Ala Pro Gln Pro Thr Pro Ala Gln Val Gly Ala Ala
    210                 215                 220

Leu His Ala Gly Ala Pro Val Pro Thr Gly Gln Pro Pro Val Trp Gln
225                 230                 235                 240

Ser Gln Ala Pro Ala Pro Thr Gly Val Leu Gly Glu Asp Glu Ile Pro
                245                 250                 255

Phe
```

<210> 200
<211> 146
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 16146 right: 16583 frame: -1 size(aa): 146

<400> 200

```
Ala Gly Pro Arg Pro His Pro Thr Ala Leu Phe Gln Cys Lys Pro Pro
1               5                   10                  15

Thr Ala Ser Pro Ser Pro Ser Pro Arg Pro Arg Pro Pro Ser Cys Pro
            20                  25                  30

Pro Ser Thr Ala Pro Cys Ser Ser Thr Thr Ala Arg Thr Gly Ser Thr
        35                  40                  45

Thr Ala Ala Pro Ala Pro Ser Arg Pro Arg Thr Ser Pro Pro Ser Leu
    50                  55                  60

Thr Thr Cys Ser Arg Thr Gly Pro Arg Pro Thr Ser Thr Ala Ser Ser
65                  70                  75                  80

Ser Thr Ser Pro Gly Gly Arg Ser Arg Ala Ala Thr Ala Ser Leu Thr
                85                  90                  95

Ser Arg Ser Arg Ser Ser Arg Pro Gly Thr Arg Ser Ser Ala Cys Pro
            100                 105                 110

Ser Ser Ser Ala Arg Pro Arg Pro Pro Arg Pro Met Arg Pro Arg Arg
        115                 120                 125

Pro Arg Pro Val Pro Leu Pro Ser Pro Thr Gly Thr Pro Arg Pro Ala
    130                 135                 140

Ser Gly
145
```

<210> 201
<211> 111
<212> PRT

<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 16394 right: 16726 frame: -3 size(aa): 111

<400> 201

Arg Pro Ser Arg Arg Arg Pro Ser Pro Arg Ser Thr Ala Gly Thr Arg
1 5 10 15

Thr Thr Arg Ser Ala Ser Ala Pro Pro Gly Arg Arg Pro Arg Ala Arg
20 25 30

Pro Arg Trp Pro Ser Ser Arg Ala Pro Leu Thr Arg Ser Ala Ser Glu
35 40 45

Pro Asp His Asp His Thr Gln Pro Leu Ser Phe Asn Ala Ser Pro Leu
50 55 60

Arg Pro Ala Pro Ala Pro Ala Pro Gly Pro Gly Pro Pro Ala Ala Arg
65 70 75 80

Pro Gln Arg Leu Pro Val Arg Arg Arg Gln Pro Glu Pro Asp Arg Leu
85 90 95

Gln Arg Leu Leu His His His Gly Pro Gly Arg Arg Arg Pro Arg
100 105 110

<210> 202
<211> 251
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 16485 right: 17237 frame: 1 size(aa): 251

<400> 202

Gly Arg Ala Ala Gly Gly Pro Gly Pro Gly Ala Gly Ala Gly Ala Gly
1 5 10 15

Arg Arg Gly Leu Ala Leu Lys Glu Ser Gly Trp Val Trp Ser Trp Ser
20 25 30

Gly Ser Glu Ala Glu Arg Val Ser Gly Ala Leu Leu Asp Gly Gln Arg
35 40 45

Gly Arg Ala Leu Gly Arg Arg Pro Gly Gly Ala Glu Ala Glu Arg Val
50 55 60

Val Arg Val Pro Ala Val Leu Arg Gly Asp Gly Arg Arg Arg Leu Gly
65 70 75 80

Arg His Ala Val Leu Ser Val Gly Arg Gly His Ala Glu Asp Gly His
85 90 95

His Ser Val Pro Ala Lys Val Arg Asp Arg Gly Ala Gln Leu Leu Ile

```
            100                 105                 110

Gly Gly Val Ala Leu Gly Arg Leu Val Glu Gln Asp Asp Arg Glu Leu
        115                 120                 125

Arg Gly Asp Ala Gly Pro Gly Leu Val Val Glu Pro Gly Gly Glu Asp
    130                 135                 140

Gly Asp Pro Gly Leu Trp Ala Pro Val Lys Gly Leu Asp Asp Arg Gln
145                 150                 155                 160

Pro Glu Leu Val Arg Leu Pro Asp Ser Leu Glu Asp Gly Ala Gln Val
                165                 170                 175

Asp Val Gly Ala Glu Ala Ala Val Gly Gly Ala Leu Asp Asp Ala Val
            180                 185                 190

Leu Gly Leu Glu Leu Gly Gln Arg Leu Glu Gln Glu Arg His Pro Trp
        195                 200                 205

Val Ser Gly Gly His Arg Gly Thr Arg Arg Trp Cys Ser Arg Arg Arg
    210                 215                 220

Ala Arg Ala Asp Pro Gly Arg Thr Ala Ala Gly Ala Arg Arg Ser Pro
225                 230                 235                 240

Gly Gly Arg Ser Arg Trp Ser Leu Gln Arg Arg
                245                 250
```

<210> 203
<211> 55
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 16538 right: 16702 frame: 3 size(aa): 55

<400> 203

```
Gly Ala Cys Ile Glu Arg Glu Arg Leu Gly Val Val Val Val Arg Leu
1               5                   10                  15

Arg Gly Arg Thr Arg Gln Arg Arg Pro Ala Gly Trp Pro Ala Gly Ala
            20                  25                  30

Gly Pro Gly Ala Ala Ala Arg Arg Gly Arg Gly Arg Thr Arg Arg Ser
        35                  40                  45

Gly Pro Arg Cys Ala Ala Gly
    50                  55
```

<210> 204
<211> 88
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 16552 right: 16815 frame: 2 size(aa): 88

<400> 204

Lys Arg Ala Val Gly Cys Gly Arg Gly Pro Ala Gln Arg Pro Asn Ala
1 5 10 15

Ser Ala Ala Pro Cys Trp Met Ala Ser Gly Gly Gly Pro Trp Gly Gly
20 25 30

Gly Pro Glu Gly Pro Arg Pro Asn Ala Ser Phe Gly Ser Pro Leu Cys
35 40 45

Cys Gly Val Met Ala Ala Val Gly Trp Gly Val Met Leu Ser Ser Val
50 55 60

Ser Ala Glu Ala Met Pro Arg Met Ala Ile Thr Ala Tyr Arg Arg Arg
65 70 75 80

Tyr Val Ile Val Ala Pro Ser Cys
85

<210> 205
<211> 212
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 16587 right: 17222 frame: -1 size(aa): 212

<400> 205

Pro Thr Arg Ser Ala Ser Arg Arg Ser Pro Ser Thr Cys Ser Ser Thr
1 5 10 15

Ala Arg Ile Ser Pro Gly Pro Pro Thr Arg Thr Pro Ser Ser Ser Ser
20 25 30

Pro Met Thr Ser Ala Asp Pro Arg Met Pro Leu Leu Leu Lys Ala Leu
35 40 45

Ala Gln Phe Gln Ala Glu His Ser Val Val Glu Arg Thr Ala Asp Gly
50 55 60

Ser Phe Gly Pro Tyr Val Asp Leu Ser Ala Val Leu Lys Ala Val Arg
65 70 75 80

Glu Ala Asn Lys Leu Gly Leu Ser Ile Val Gln Thr Phe Asp Arg Gly
85 90 95

Pro Glu Pro Gly Val Ala Val Leu Ser Thr Trp Leu Tyr His Glu Ser
100 105 110

Gly Ala Cys Val Ser Ser Glu Leu Pro Val Val Leu Phe Tyr Glu Pro
115 120 125

Thr Lys Arg Asn Thr Ser Asn Gln Gln Leu Gly Ala Thr Ile Thr Tyr
130 135 140

Leu Arg Arg Tyr Ala Val Met Ala Ile Leu Gly Met Ala Ser Ala Asp
145 150 155 160

Thr Glu Asp Ser Met Thr Pro Gln Pro Thr Ala Ala Ile Thr Pro Gln
165 170 175

His Ser Gly Asp Pro Asn Asp Ala Phe Gly Leu Gly Pro Ser Gly Pro
180 185 190

Pro Pro Gln Gly Pro Pro Pro Leu Ala Ile Gln Gln Gly Ala Ala Asp
195 200 205

Ala Phe Gly Leu
210

<210> 206
<211> 67
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 16741 right: 16941 frame: -2 size(aa): 67

<400> 206

Pro Gly Pro Arg Ala Arg Gly Arg Arg Pro Leu His Leu Ala Leu Pro
1 5 10 15

Arg Val Arg Gly Leu Arg Leu Leu Gly Ala Pro Gly Arg Pro Val Leu
20 25 30

Arg Ala Asp Gln Ala Gln His Leu Gln Ser Ala Ala Gly Arg His Asp
35 40 45

His Val Pro Ser Pro Val Arg Cys Asp Gly His Pro Arg His Gly Leu
50 55 60

Gly Arg His
65

<210> 207
<211> 77
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 16775 right: 17005 frame: -3 size(aa): 77

<400> 207

Ala Pro Ser Ser Arg Leu Ser Gly Arg Arg Thr Ser Ser Gly Cys Arg
1 5 10 15

Ser Ser Arg Pro Leu Thr Gly Ala Gln Ser Pro Gly Ser Pro Ser Ser
20 25 30

Pro Pro Gly Ser Thr Thr Ser Pro Gly Pro Ala Ser Pro Arg Ser Ser

35 40 45

Arg Ser Ser Cys Ser Thr Ser Arg Pro Ser Ala Thr Pro Pro Ile Ser
50 55 60

Ser Trp Ala Pro Arg Ser Arg Thr Phe Ala Gly Thr Leu
65 70 75

<210> 208
<211> 65
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 16799 right: 16993 frame: 3 size(aa): 65

<400> 208

Ser Trp Arg Pro Ala Ala Asp Trp Arg Cys Cys Ala Trp Ser Ala Arg
1 5 10 15

Arg Thr Gly Arg Pro Gly Ala Pro Arg Arg Arg Pro Arg Thr Arg
20 25 30

Gly Arg Ala Arg Trp Arg Gly Arg Arg Pro Arg Ala Leu Gly Pro Gly
35 40 45

Gln Arg Ser Gly Arg Ser Thr Ala Arg Ala Cys Ser Pro Pro Gly Gln
50 55 60

Pro
65

<210> 209
<211> 55
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 16945 right: 17109 frame: -2 size(aa): 55

<400> 209

Pro Thr Asp Ala Ala Pro Ala Gln Gly Ala Gly Pro Val Pro Gly Arg
1 5 10 15

Ala Gln Arg Arg Arg Ala His Arg Arg Arg Gln Leu Arg Pro Leu Arg
20 25 30

Arg Pro Glu Arg Arg Pro Gln Gly Cys Pro Gly Gly Glu Gln Ala Arg
35 40 45

Ala Val Asp Arg Pro Asp Leu
50 55

<210> 210
<211> 190

<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 17020 right: 17589 frame: 2 size(aa): 190

<400> 210

Gly Pro Lys Leu Pro Ser Ala Val Arg Ser Thr Thr Leu Cys Ser Ala
1 5 10 15

Trp Asn Trp Ala Ser Ala Leu Ser Arg Ser Gly Ile Arg Gly Ser Ala
20 25 30

Glu Val Ile Gly Glu Leu Asp Asp Gly Val Leu Val Gly Gly Pro Gly
35 40 45

Leu Ile Leu Ala Val Leu Leu Gln Val Leu Gly Asp Leu Leu Glu Ala
50 55 60

Asp Leu Val Gly His Cys Ser Gly Val Asp Gly Ile Val Arg Glu Pro
65 70 75 80

Asp Asp Pro Gly Gly Val Gly Arg Leu Arg Leu Glu Gln His Gln Gln
85 90 95

Leu Pro Leu Gly Arg Thr Ala Gly Gln Ala Glu Asp Leu Glu Val Val
100 105 110

Gly Arg Leu Met Ile Val Ala Val Val Pro Asp Arg Pro Leu Glu Leu
115 120 125

Ala Ile Ala Gly Val Gly Arg Gly Leu Asp Val Asp Gln Pro Pro Gly
130 135 140

Ala Gly Pro Arg Val Glu Pro Asp Leu Glu Leu Gln Ala Arg Gly Arg
145 150 155 160

Val Asp Arg Glu Asp Arg Leu Leu Gly Gly Asp His Arg Leu Gly Asp
165 170 175

Ala Leu Asn Asp Gly Val Leu Glu Gly Asp Val Pro His Gly
180 185 190

<210> 211
<211> 347
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 17113 right: 18153 frame: -2 size(aa): 347

<400> 211

Ser Leu Tyr Arg Gly Arg Glu Pro Pro Gln Ser His Asn Asn Arg Gly
1 5 10 15

```
Pro Phe Ser Arg Asp Leu Pro Pro Leu Ala Pro Arg Met Ala Leu Leu
            20                  25                  30

Pro Trp Pro Ser Ala Arg His Pro Tyr Cys Tyr Leu Pro Ala Arg Trp
        35                  40                  45

Asp Pro Gly Ala Tyr Asp Pro Gly Val Pro Gly Pro Val Pro Gly Asp
    50                  55                  60

Pro Met Thr Gln Ala Pro Gln Ala Pro Glu Pro Thr Pro Glu Glu Leu
65                  70                  75                  80

Gln Pro Gln Pro Pro Lys Leu Thr Asn Glu Gln His His Ala His Pro
                85                  90                  95

Ala Ile Gly Ser Ser Asp Leu Lys Leu Phe Arg Arg Ser Pro Leu His
            100                 105                 110

Tyr Trp His Arg Lys Tyr Ser Pro Ser Phe Val Pro Lys Pro Pro Ser
        115                 120                 125

Ala Ser Met Gln Met Gly Thr Ala Leu His Ile Ala Leu Leu Glu Pro
    130                 135                 140

Glu Arg Phe Glu Lys Ala Val Gly Gln Ala Leu Thr Thr Pro Lys Thr
145                 150                 155                 160

Ser Lys Ala Ala Lys Glu Ala His Ala Glu His Asp Ala Lys Tyr Glu
                165                 170                 175

Leu Thr Ile Pro Pro Ala Ala Tyr Gln Gln Val Leu Ala Met Arg Asp
            180                 185                 190

Val Ala Leu Lys His Pro Val Ile Lys Arg Ile Ala Glu Thr Val Val
        195                 200                 205

Ser Thr Glu Glu Ser Val Phe Ala Ile Asp Pro Thr Thr Gly Leu Glu
    210                 215                 220

Leu Lys Ile Arg Leu Asp Ala Trp Thr Ser Pro Gly Trp Leu Ile Asp
225                 230                 235                 240

Val Lys Thr Thr Ala Asp Ala Ser Asn Gly Lys Phe Lys Trp Ser Ile
                245                 250                 255

Arg Asp Tyr Gly Tyr Asp His Gln Ala Ala Tyr Tyr Leu Lys Val Leu
            260                 265                 270

Arg Leu Ala Gly Arg Pro Pro Gln Gly Gln Leu Leu Val Leu Leu Glu
        275                 280                 285

Ser Glu Ala Pro His Ala Ala Arg Val Val Arg Leu Pro Asp Asp Ala
    290                 295                 300

Ile Asn Ala Ala Ala Val Thr Asn Glu Ile Cys Leu Gln Glu Ile Ala
305                 310                 315                 320

Glu His Leu Gln Gln Tyr Gly Gln Asp Gln Pro Trp Pro Ala Tyr Glu
                325                 330                 335

Asn Thr Ile Val Glu Phe Pro Tyr Asp Leu Arg
```

340 345

<210> 212
<211> 143
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 17123 right: 17551 frame: -3 size(aa): 143

<400> 212

Ala His Arg Arg Asp Gly Gly Leu His Arg Gly Val Gly Leu Arg Asp
1 5 10 15

Arg Pro Asp His Gly Pro Gly Ala Gln Asp Pro Ala Arg Arg Val Asp
20 25 30

Gln Pro Arg Val Ala Asp Arg Arg Gln Asp His Gly Arg Arg Gln Gln
35 40 45

Trp Gln Val Gln Val Val Asp Pro Gly Leu Arg Leu Arg Ser Ser Gly
50 55 60

Gly Leu Leu Pro Gln Gly Pro Pro Pro Gly Arg Pro Ser Ala Pro Gly
65 70 75 80

Ala Val Ala Gly Ala Ala Arg Val Gly Gly Ala Pro Arg Arg Pro Gly
85 90 95

Arg Pro Ala Pro Gly Arg Cys His Gln Arg Arg Cys Ser Asp Gln Arg
100 105 110

Asp Leu Pro Pro Gly Asp Arg Arg Ala Pro Ala Ala Val Arg Pro Gly
115 120 125

Ser Ala Leu Ala Arg Leu Arg Glu His His Arg Arg Val Pro Leu
130 135 140

<210> 213
<211> 61
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 17168 right: 17350 frame: 3 size(aa): 61

<400> 213

Ser Trp Pro Tyr Cys Cys Arg Cys Ser Ala Ile Ser Trp Arg Gln Ile
1 5 10 15

Ser Leu Val Thr Ala Ala Ala Leu Met Ala Ser Ser Gly Ser Arg Thr
20 25 30

Thr Arg Ala Ala Trp Gly Ala Ser Asp Ser Ser Ser Thr Ser Asn Cys
35 40 45

```
Pro Trp Gly Gly Arg Pro Ala Arg Arg Thr Leu Arg
    50                  55                  60

<210>  214
<211>  71
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  >New ORF = left: 17226 right: 17438 frame: -1 size(aa): 71


<400>  214

Ser Thr Ser Arg Pro Arg Pro Thr Pro Ala Met Ala Ser Ser Ser Gly
1               5                   10                  15

Arg Ser Gly Thr Thr Ala Thr Ile Ile Arg Arg Pro Thr Thr Ser Arg
            20                  25                  30

Ser Ser Ala Trp Pro Ala Val Arg Pro Arg Gly Ser Cys Trp Cys Cys
        35                  40                  45

Ser Ser Arg Arg Arg Pro Thr Pro Pro Gly Ser Ser Gly Ser Arg Thr
    50                  55                  60

Met Pro Ser Thr Pro Leu Gln
65                  70

<210>  215
<211>  74
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  >New ORF = left: 17381 right: 17602 frame: 3 size(aa): 74


<400>  215

Ser Arg Ile Asp His Leu Asn Leu Pro Leu Leu Ala Ser Ala Val Val
1               5                   10                  15

Leu Thr Ser Ile Ser His Pro Gly Leu Val His Ala Ser Ser Arg Ile
            20                  25                  30

Leu Ser Ser Arg Pro Val Val Gly Ser Ile Ala Lys Thr Asp Ser Ser
        35                  40                  45

Val Glu Thr Thr Val Ser Ala Met Arg Leu Met Thr Gly Cys Leu Arg
    50                  55                  60

Ala Thr Ser Arg Met Ala Asn Thr Cys Trp
65                  70

<210>  216
<211>  231
<212>  PRT
```

<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 17555 right: 18247 frame: -3 size(aa): 231

<400> 216

```
Trp Ser Gly Ser Gly Arg Arg Pro Gly Pro Gly Thr Gly Gly Arg Pro
1               5                  10                  15

Tyr Ser Gln Arg Ala Val Leu Trp Arg Ala Ser Arg His Val Ile Val
            20                  25                  30

Val Val Pro Gly Ala Gly Ala Pro Thr Ile Pro Gln Gln Pro Trp Thr
        35                  40                  45

Phe Leu Lys Arg Pro Thr Ala Ser Gly Thr Ser Asp Gly Ala Ser Thr
    50                  55                  60

Val Ala Leu Gly Ala Ala Pro Val Leu Leu Ser Pro Arg Lys Val Gly
65                  70                  75                  80

Pro Arg Cys Leu Arg Pro Arg Ser Ser Gly Thr Cys Ala Gly Arg Pro
                85                  90                  95

Asp Asp Pro Gly Thr Pro Gly Pro Gly Ala His Pro Gly Gly Ala Pro
            100                 105                 110

Ala Pro Ala Pro Gln Ala His Gln Arg Ala Ala Pro Arg Pro Pro Arg
        115                 120                 125

Asp Arg Ile Glu Arg Pro Gln Ala Leu Pro Pro Val Ala Ala Pro Leu
    130                 135                 140

Leu Ala Pro Gln Val Gln Pro Leu Val Arg Thr Glu Ala Ala Leu Gly
145                 150                 155                 160

Leu Asp Ala Asp Gly Asp Arg Pro Ala His Arg Pro Ala Arg Ala Gly
                165                 170                 175

Ala Leu Arg Glu Gly Gly Arg Ser Gly Ala Asp Asp Ala Gln Asp Val
            180                 185                 190

Glu Gly Gly Gln Gly Gly Pro Arg Arg Ala Arg Arg Gln Val Arg Ala
        195                 200                 205

His Asp Pro Pro Gly Gly Leu Pro Ala Gly Val Ser His Ala Gly Arg
    210                 215                 220

Arg Pro Gln Ala Pro Arg His
225                 230
```

<210> 217
<211> 155
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature

<223> >New ORF = left: 17593 right: 18057 frame: 2 size(aa): 155

<400> 217

```
His Leu Leu Val Gly Arg Arg Gly Asp Arg Glu Leu Val Leu Gly Val
1               5                  10                  15

Val Leu Gly Val Gly Leu Leu Gly Arg Leu Arg Arg Leu Gly Arg Arg
            20                  25                  30

Gln Arg Leu Thr Asp Arg Leu Leu Glu Ala Leu Arg Leu Glu Gln Gly
        35                  40                  45

Asp Val Gln Gly Gly Pro His Leu His Arg Gly Arg Gly Arg Leu Arg
    50                  55                  60

Tyr Glu Arg Gly Ala Val Leu Ala Val Pro Val Val Glu Arg Arg Pro
65                  70                  75                  80

Ala Glu Glu Leu Glu Val Ala Arg Ser Asp Arg Gly Val Gly Val Val
                85                  90                  95

Leu Leu Val Gly Glu Leu Gly Gly Leu Gly Leu Glu Leu Leu Arg Gly
            100                 105                 110

Gly Leu Arg Gly Leu Gly Cys Leu Gly His Arg Val Ala Arg His Arg
        115                 120                 125

Ser Arg Asn Ser Trp Val Val Ser Thr Trp Val Pro Pro Cys Gly Glu
    130                 135                 140

Ile Ala Val Arg Val Pro Arg Arg Gly Pro Arg
145                 150                 155
```

<210> 218
<211> 73
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 17625 right: 17843 frame: 1 size(aa): 73

<400> 218

```
Ala Arg Thr Trp Arg Arg Ala Arg Arg Gly Pro Pro Trp Pro Pro Ser
1               5                  10                  15

Thr Ser Trp Ala Ser Ser Ala Pro Asp Arg Pro Pro Ser Arg Ser Ala
            20                  25                  30

Pro Ala Arg Ala Gly Arg Cys Ala Gly Arg Ser Pro Ser Ala Ser Arg
        35                  40                  45

Pro Arg Ala Ala Ser Val Arg Thr Arg Gly Cys Thr Cys Gly Ala Ser
    50                  55                  60

Ser Gly Ala Ala Thr Gly Gly Arg Ala
65                  70
```

<210> 219
<211> 88
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 17691 right: 17954 frame: -1 size(aa): 88

<400> 219

Pro Arg His Pro Arg Pro Arg Ser Pro Pro Arg Arg Ser Ser Ser Pro
1 5 10 15

Ser Pro Pro Ser Ser Pro Thr Ser Ser Thr Thr Pro Thr Pro Arg Ser
20 25 30

Asp Arg Ala Thr Ser Ser Ser Ser Ala Gly Arg Arg Ser Thr Thr Gly
35 40 45

Thr Ala Ser Thr Ala Pro Arg Ser Tyr Arg Ser Arg Pro Arg Pro Arg
50 55 60

Cys Arg Trp Gly Pro Pro Cys Thr Ser Pro Cys Ser Ser Arg Ser Ala
65 70 75 80

Ser Arg Arg Arg Ser Val Arg Arg
85

<210> 220
<211> 59
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 17819 right: 17995 frame: 3 size(aa): 59

<400> 220

Trp Ser Gly Asp Arg Arg Lys Ser Leu Arg Ser Leu Asp Pro Ile Ala
1 5 10 15

Gly Trp Ala Trp Cys Cys Ser Leu Val Ser Leu Gly Gly Trp Gly Trp
20 25 30

Ser Ser Ser Gly Val Gly Ser Gly Ala Trp Gly Ala Trp Val Ile Gly
35 40 45

Ser Pro Gly Thr Gly Pro Gly Thr Pro Gly Ser
50 55

<210> 221
<211> 101
<212> PRT
<213> Cyanophage S-2L

<220>

<221> misc_feature
<223> >New ORF = left: 17895 right: 18197 frame: 1 size(aa): 101

<400> 221

Ala Trp Gly Ala Gly Ala Gly Ala Pro Pro Gly Trp Ala Pro Gly Pro
1 5 10 15

Gly Val Pro Gly Ser Ser Gly Arg Pro Ala Gln Val Pro Glu Leu Leu
20 25 30

Gly Arg Lys His Leu Gly Pro Thr Leu Arg Gly Asp Ser Ser Thr Gly
35 40 45

Ala Ala Pro Arg Ala Thr Val Glu Ala Pro Ser Glu Val Pro Glu Ala
50 55 60

Val Gly Leu Leu Arg Lys Val His Gly Cys Cys Gly Ile Val Gly Ala
65 70 75 80

Pro Ala Pro Gly Thr Thr Thr Ile Thr Cys Arg Leu Ala Arg His Asn
85 90 95

Thr Ala Arg Cys Glu
100

<210> 222
<211> 70
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 17958 right: 18167 frame: -1 size(aa): 70

<400> 222

Pro Ala Cys Tyr Ser Arg Cys Thr Gly Gly Gly Ser Pro His Asn Pro
1 5 10 15

Thr Thr Thr Val Asp Leu Ser Gln Glu Thr Tyr Arg Leu Trp His Leu
20 25 30

Gly Trp Arg Phe Tyr Arg Gly Pro Arg Arg Gly Thr Arg Thr Ala Ile
35 40 45

Ser Pro Gln Gly Gly Thr Gln Val Leu Thr Thr Gln Glu Phe Arg Asp
50 55 60

Leu Cys Arg Ala Thr Arg
65 70

<210> 223
<211> 113
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature

<223> >New ORF = left: 18029 right: 18367 frame: 3 size(aa): 113

<400> 223

```
Gln Tyr Gly Cys Arg Ala Glu Gly His Gly Arg Ser Ala Ile Arg Gly
1               5                   10                  15

Ala Arg Gly Gly Arg Ser Leu Glu Lys Gly Pro Arg Leu Leu Trp Asp
            20                  25                  30

Cys Gly Gly Ser Arg Pro Arg Tyr Asn Asp Tyr Asn Met Pro Ala Ser
        35                  40                  45

Pro Pro Gln Tyr Cys Pro Leu Arg Val Gly Pro Ser Thr Gly Pro Gly
    50                  55                  60

Pro Arg Pro Pro Ala Arg Pro Gly Pro Ser Val Arg Pro Arg Pro Ser
65                  70                  75                  80

Ser Cys Ala Arg Arg Arg Trp Arg Phe Ala Gln Pro Ala Gly Arg Arg
                85                  90                  95

Thr Gly Ala Gly Ala Pro Pro Arg Gly Gly Pro Thr Ala Arg Ala Phe
            100                 105                 110

Pro
```

<210> 224
<211> 103
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 18157 right: 18465 frame: -2 size(aa): 103

<400> 224

```
Met Ala Pro Gln Thr Ala Val Pro Arg Pro Gln Pro Ala Gly Cys Leu
1               5                   10                  15

Arg Gly Gln Leu Leu Glu Arg Val Gly His Pro Pro Gly Leu Gly Ala
            20                  25                  30

Gln Gly Asn Ala Arg Ala Val Gly Pro Pro Arg Gly Gly Ala Pro Ala
        35                  40                  45

Pro Val Leu Arg Pro Ala Gly Trp Ala Asn Arg His Arg Leu Arg Ala
    50                  55                  60

Gln Leu Leu Gly Arg Gly Arg Thr Asp Gly Pro Gly Arg Ala Gly Gly
65                  70                  75                  80

Leu Gly Pro Gly Pro Val Glu Gly Pro Thr Arg Ser Gly Gln Tyr Cys
                85                  90                  95

Gly Gly Leu Ala Gly Met Leu
            100
```

<210> 225
<211> 105
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 18171 right: 18485 frame: -1 size(aa): 105

<400> 225

Asp Arg Ala Met Arg Asn Glu Trp Pro Leu Lys Gln Leu Ser Pro Val
1 5 10 15

His Asn Gln Leu Gly Val Phe Glu Ala Ser Cys Trp Ser Glu Ser Asp
20 25 30

Ile Pro Pro Asp Trp Glu Leu Lys Gly Thr Leu Val Arg Ser Gly Leu
35 40 45

Pro Gly Glu Val His Arg His Arg Phe Tyr Asp Leu Arg Ala Gly Arg
50 55 60

Ile Ala Ile Val Phe Glu His Ser Cys Leu Gly Glu Asp Ala Leu Met
65 70 75 80

Val Arg Val Gly Pro Ala Ala Trp Ala Arg Asp Arg Trp Lys Ala Leu
85 90 95

Leu Ala Ala Gly Ser Ile Val Ala Gly
100 105

<210> 226
<211> 183
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 18201 right: 18749 frame: 1 size(aa): 183

<400> 226

Gly Leu Pro Pro Val Pro Gly Pro Gly Arg Arg Pro Asp Pro Asp His
1 5 10 15

Gln Cys Val Leu Ala Gln Ala Ala Val Leu Glu Asp Asp Gly Asp Ser
20 25 30

Pro Ser Pro Gln Val Val Glu Pro Val Pro Val His Leu Pro Gly Glu
35 40 45

Ala Arg Pro His Glu Arg Ser Leu Glu Leu Pro Val Arg Gly Asp Val
50 55 60

Arg Leu Ala Pro Ala Ala Gly Leu Glu Asp Thr Gln Leu Val Val Asp
65 70 75 80

```
Gly Gly Gln Leu Phe Glu Gly Pro Phe Ile Pro His Ser Pro Ile Leu
                85                  90                  95

Pro Pro Trp Gly Gly Gly Arg Arg Arg Ser Pro Ser Gly Cys Gly Ala
            100                 105                 110

Gly Pro Asp Gly Arg Pro Ser Ser Cys Ala Val Ser Cys Ala Gly Cys
        115                 120                 125

Leu Ala Cys Arg Pro Arg Ser Ala Ser Ala Arg Ser Ala Pro Ala Pro
    130                 135                 140

Gly Pro Pro Trp Gly Pro Gly Arg Pro Gly Ser Pro Thr Pro Gly Pro
145                 150                 155                 160

Gly Ser Gly Arg Ser Ala Gly Gln Pro Ala Ser Gly Ser Thr Arg Ser
                165                 170                 175

Arg Tyr Pro Cys Ser Gly Gly
            180
```

<210> 227
<211> 166
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 18251 right: 18748 frame: -3 size(aa): 166

<400> 227

```
Pro Pro Glu His Gly Tyr Leu Asp Leu Val Asp Pro Asp Ala Gly Trp
1               5                   10                  15

Pro Ala Asp Arg Pro Glu Pro Gly Pro Gly Val Gly Asp Pro Gly Arg
            20                  25                  30

Pro Gly Pro Gln Gly Gly Pro Gly Ala Gly Ala Asp Arg Ala Asp Ala
        35                  40                  45

Asp Leu Gly Arg Gln Ala Arg His Pro Ala Gln Asp Thr Ala Gln Leu
    50                  55                  60

Asp Gly Arg Pro Ser Gly Pro Ala Pro Gln Pro Leu Gly Asp Arg Arg
65                  70                  75                  80

Arg Pro Pro Pro His Gly Gly Arg Ile Gly Leu Cys Gly Met Asn Gly
                85                  90                  95

Pro Ser Asn Ser Cys Pro Pro Ser Thr Thr Ser Trp Val Ser Ser Arg
            100                 105                 110

Pro Ala Ala Gly Ala Ser Arg Thr Ser Pro Arg Thr Gly Ser Ser Arg
        115                 120                 125

Glu Arg Ser Cys Gly Arg Ala Ser Pro Gly Arg Cys Thr Gly Thr Gly
    130                 135                 140

Ser Thr Thr Cys Gly Leu Gly Glu Ser Pro Ser Ser Ser Ser Thr Ala
```

145 150 155 160

Ala Trp Ala Arg Thr His
165

<210> 228
<211> 507
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 18316 right: 19836 frame: 2 size(aa): 507

<400> 228

Asn Arg Cys Arg Cys Thr Ser Pro Gly Arg Pro Asp Arg Thr Ser Val
1 5 10 15

Pro Leu Ser Ser Gln Ser Gly Gly Met Ser Asp Ser Leu Gln Gln Leu
20 25 30

Ala Ser Lys Thr Pro Ser Trp Leu Trp Thr Gly Asp Ser Cys Leu Arg
35 40 45

Gly His Ser Phe Arg Ile Ala Leu Ser Tyr His Arg Gly Val Gly Ala
50 55 60

Gly Asp Asp Leu Pro Ala Val Ala Glu Pro Asp Leu Met Ala Gly His
65 70 75 80

Pro Val Val Gln Cys Leu Ala Arg Asp Ala Ser Pro Val Ala Pro Gly
85 90 95

Gln His Pro Leu Asp Arg His Pro His Arg Gly Arg Pro Gly Gly Gln
100 105 110

Asp Val Pro Asp His Pro His Arg Gly Leu Ala Pro Val Asp Pro Leu
115 120 125

Ala Asn Pro Arg Leu Asp Pro Pro Asp Pro Asp Thr His Val Pro Ala
130 135 140

Ala Ser His Pro Asp Gln Phe Ser Gly Arg Gln Pro Gly Gln Gly Ala
145 150 155 160

Val Glu Gly Gly Pro Gly Gln Val Glu Leu Cys Gly His Leu Gly Gln
165 170 175

Arg Arg Pro Pro Pro Gly Pro Met Val Gly Gln Ala Ala Pro Gly Gln
180 185 190

Arg His His Arg Gly Pro Pro Gly Pro Met Ala Ser Glu Gln Phe Arg
195 200 205

Leu Asn Arg Gln Gly Met Leu Gly Trp Val His Ala Thr Leu His Arg
210 215 220

Ser Gly Ala Ala Val Asp Arg Arg Pro Gly Val Asp Ala Gln Gly Gln
225 230 235 240

```
Gln Ala Arg Ala Leu Arg Pro Pro His Arg Gly Arg Gln Asp Gln His
                245                 250                 255

Leu His Arg Gly Gly Gln Ala Asp Arg Gly Ala Gly Gln Ala Gly Pro
            260                 265                 270

Asp Pro Gly Ala Pro Pro Gly Ala Pro Pro Pro Asp Gln Arg Pro Ala
        275                 280                 285

His Glu Val Gly His His Pro Arg Ala Glu Pro Gly Arg Val Arg Leu
    290                 295                 300

Asp Asp Arg Gln Ala Asp Pro Leu Pro Ala Gly Pro Ala Asp Arg Arg
305                 310                 315                 320

Arg Gly Pro Pro Leu Arg Gln Pro His Leu Gly Pro Glu Asp Arg Arg
                325                 330                 335

Val Arg Arg Pro Ala Pro Gly Leu Asp Arg His Pro Gly Ala Ala Arg
            340                 345                 350

Arg Pro Gly Pro Gly Arg Gly Val Pro Gly His Gly His Arg Ala Val
        355                 360                 365

Arg Arg Arg Ala His Gly Ala Gln Pro Pro Val Pro Val Pro Pro Val
    370                 375                 380

Pro Pro Ala Pro Gly Leu Arg Pro Gly Gln Arg Ala Gly Arg Val Leu
385                 390                 395                 400

Arg Gly Pro Gln Leu Glu Asp Val Arg Arg Arg Pro Ala Asp Asp Arg
                405                 410                 415

Val Leu His Leu Asp Arg Ala Cys Gly Gln Asp Leu Arg Gly Val Pro
            420                 425                 430

Gly Arg Arg Cys Gly Gly Arg Gly Ala Arg Leu Glu Thr Val Arg His
        435                 440                 445

Arg Ala Ala Arg Ala Asp Arg Pro Val Gln Glu Arg Arg Asp Asp Gly
    450                 455                 460

Ala Arg Leu Gly His Ala Asp Leu Gly Gly Phe Arg Arg Pro Arg Leu
465                 470                 475                 480

Arg Leu Arg Pro Ala Ala Pro Pro Asp Val Val Ala Val Ala Leu Pro
                485                 490                 495

Pro Ala Gly Arg Pro Gly Pro Pro Val Leu Arg
            500                 505
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<210> 229
<211> 158
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 18484 right: 18957 frame: -2 size(aa): 158

<400> 229

His Thr Leu Pro Ile Gln Pro Glu Leu Leu Ala Arg His Arg Ser Arg
1 5 10 15

Trp Ser Pro Val Val Ser Leu Thr Trp Ser Arg Leu Ala Asp His Gly
20 25 30

Pro Gly Trp Trp Pro Ser Leu Thr Glu Met Ala Ala Glu Phe Asp Leu
35 40 45

Pro Arg Ala Thr Phe Tyr Arg Ala Leu Ala Arg Leu Ala Ser Ala Glu
50 55 60

Leu Ile Gly Met Thr Ser Arg Arg Asn Met Gly Ile Trp Ile Trp Trp
65 70 75 80

Ile Gln Thr Arg Val Gly Gln Arg Ile Asp Arg Ser Gln Ala Pro Val
85 90 95

Trp Val Ile Arg Asp Val Leu Ala Pro Arg Ala Ala Pro Val Arg Val
100 105 110

Pro Ile Glu Arg Met Leu Thr Trp Gly Asp Arg Arg Gly Ile Pro Arg
115 120 125

Lys Thr Leu His Asn Trp Met Ala Gly His Gln Val Arg Leu Arg Asn
130 135 140

Arg Trp Glu Ile Val Ala Gly Pro His Pro Thr Val Val Gly
145 150 155

<210> 230
<211> 84
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 18545 right: 18796 frame: 3 size(aa): 84

<400> 230

Trp Pro Ala Ile Gln Leu Cys Ser Val Leu Arg Gly Met Pro Arg Leu
1 5 10 15

Ser Pro Gln Val Ser Ile Arg Ser Ile Gly Thr Arg Thr Gly Ala Ala
20 25 30

Leu Gly Ala Arg Thr Ser Arg Ile Thr His Thr Gly Ala Trp Leu Arg
35 40 45

Ser Ile Arg Trp Pro Thr Arg Val Trp Ile His Gln Ile Gln Ile Pro
50 55 60

Met Phe Arg Arg Leu Val Ile Pro Ile Ser Ser Ala Asp Ala Ser Arg
65 70 75 80

Ala Arg Ala Arg

<210> 231
<211> 83
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 18753 right: 19001 frame: 1 size(aa): 83

<400> 231

Ser Ser Arg Ser Val Gln Arg Thr Pro Ala Gly Pro Gly Arg Gly Arg
1 5 10 15

Arg Trp Pro Trp Ala Gly Arg Thr Leu Arg Pro Ser Arg Ser Ala Thr
20 25 30

Ala Thr Thr Arg Ala His Gly Arg Pro Gly Gly Ser Arg Ser Ala Thr
35 40 45

Pro Pro Gly Thr Thr Gly Thr Asp Gly Glu Arg Ala Ile Gln Ala Glu
50 55 60

Ser Ala Arg Tyr Ala Arg Met Gly Ala Cys His Ser Thr Pro Ile Arg
65 70 75 80

Ser Ser Cys

<210> 232
<211> 55
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 18770 right: 18934 frame: -3 size(aa): 55

<400> 232

Ile Ala Arg Ser Pro Ser Val Pro Val Val Pro Gly Gly Val Ala Asp
1 5 10 15

Leu Glu Pro Pro Gly Arg Pro Trp Ala Arg Val Val Ala Val Ala Asp
20 25 30

Arg Asp Gly Arg Arg Val Arg Pro Ala Gln Gly His Leu Leu Pro Arg
35 40 45

Pro Gly Pro Ala Gly Val Arg
50 55

<210> 233
<211> 461
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 18938 right: 20320 frame: -3 size(aa): 461

<400> 233

Asp His Val Gly Ser His Gly Leu Gly His Leu Gln Ala Asn Pro Val
1 5 10 15

Leu Glu Asp Gly Phe Ala Leu Cys His Thr Thr Ile Leu Ala Pro Arg
20 25 30

Ile Thr Gly Gly Gln Asp Leu Val Tyr Pro Ala Trp Phe Val Pro Leu
35 40 45

Leu Leu Gly Gln Pro Ala Gln Val Leu Leu Gly Pro Gly Val Pro Asp
50 55 60

Asp Leu Pro Leu Gly His Gly Val Asp Arg Gly Gly Gly Gly Leu Leu
65 70 75 80

Glu Asp Gly Ile His Leu Pro Gly Tyr Asp Gly Leu His Arg Val Pro
85 90 95

Val Pro Ala Glu Arg Ala Asp Arg Arg Arg Ala Val Asp Leu Glu Ala
100 105 110

Leu Arg Ala Asp Pro Glu Arg Trp Gly Arg Ala Val Leu Ala Gly Pro
115 120 125

Asp Leu Leu Ala Leu Gln Gly Pro Val Val Glu Val Val Arg Gln Ala
130 135 140

Gln Val Arg Val Leu Arg Val Ala His Ala Val Glu Asp Asp Ala Gly
145 150 155 160

Leu Thr Gly Glu Pro Glu Ala Pro Ala Asp Leu Leu Glu Val Glu Arg
165 170 175

Gln Arg Arg Arg Arg Ala Glu Gln Gln Asp Ala Val Ala Val Gly Asp
180 185 190

Val Glu Thr Leu Arg Asp Gln His Asp Arg Asp Glu His His Arg Leu
195 200 205

Ala Ala Leu Glu Pro Gly Asp Pro Leu Glu Pro Leu Gly Val Gly Gln
210 215 220

Phe Arg Val Glu His Leu Gly Arg His Thr Asp Gly Pro Glu Arg Leu
225 230 235 240

Ala Gly Leu Gly Arg Met Leu Asp Arg Asp Ala Glu Arg Asp Arg Pro
245 250 255

Pro Ala Val Gly Glu Arg Leu Pro Val Ala Asp Pro Gly Glu His Gly
260 265 270

Pro Leu Ala Ala Arg Val Glu Val Arg Gly Arg Val Glu Gln Ala Val
275 280 285

Pro Gly Gln Ala Val Glu Arg His Glu Leu Gly Asp Gly Arg Pro Asp
290 295 300

Asp His Val Leu Glu His Leu Ala Gln Ala Pro Ala Val Glu Pro Leu
305 310 315 320

Arg Gly Gly Gly Pro Ala Gln Glu Arg Asp Val Val Leu Val Asp Leu
325 330 335

Pro Gly Pro Gly Gly Ala Asp Ala Val Val Gly Leu Val Asp Asp Gln
340 345 350

Gln Val Arg Pro Glu Val Gly Pro Leu Ala Asp Arg Arg Asp Val His
355 360 365

Ala Pro Val Arg Pro Gly Gly Asp Ala Arg Leu His Glu Pro Asp Val
370 375 380

Gly Leu Val Glu Glu Leu Pro Ala Val His Gln Asp Gln Gly Pro Leu
385 390 395 400

Ala Pro Leu His Gly Pro Pro Gly Arg Leu Asp Glu Gly Val Gly Leu
405 410 415

Ala Ala Pro Gly Gly Glu Asp Ala Glu His Ala Leu Val Ala Leu Glu
420 425 430

His Arg Arg Pro Gly Val Gly Gln Gln Leu Leu Leu Ile Gly Val Glu
435 440 445

Trp His Ala Pro Ile Leu Ala Tyr Leu Ala Asp Ser Ala
450 455 460

<210> 234
<211> 424
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 18962 right: 20233 frame: 3 size(aa): 424

<400> 234

Asp Gly Cys Met Pro Leu Tyr Thr Asp Gln Glu Gln Leu Leu Thr Asp
1 5 10 15

Ala Arg Ala Ser Met Leu Lys Gly Asn Lys Arg Val Leu Cys Val Leu
20 25 30

Pro Thr Gly Gly Gly Lys Thr Asn Thr Phe Ile Glu Ala Ala Arg Arg
35 40 45

Thr Val Glu Arg Gly Lys Arg Ala Leu Ile Leu Val His Arg Arg Glu
50 55 60

Leu Leu His Gln Thr Asn Val Arg Leu Met Lys Ser Gly Ile Thr Pro
65 70 75 80

Gly Pro Asn Arg Gly Val Tyr Val Ser Thr Ile Gly Lys Arg Thr His

85 90 95

Phe Arg Pro Asp Leu Leu Ile Val Asp Glu Ala His His Cys Val Ser
100 105 110

Pro Thr Trp Ala Arg Lys Ile Asp Glu Tyr Asp Val Pro Leu Leu Gly
115 120 125

Trp Thr Ala Thr Pro Glu Arg Leu Asp Gly Arg Gly Leu Gly Glu Val
130 135 140

Phe Gln Asp Met Val Ile Gly Pro Ser Val Ala Glu Leu Met Ala Leu
145 150 155 160

Asn Arg Leu Ser Arg Tyr Arg Leu Phe His Pro Pro Pro Asp Phe Asp
165 170 175

Pro Gly Ser Glu Arg Ala Val Phe Ser Gly Val Arg Asn Trp Lys Thr
180 185 190

Phe Ala Asp Gly Arg Arg Thr Ile Ala Phe Cys Ile Ser Ile Glu His
195 200 205

Ala Ala Lys Thr Cys Glu Ala Phe Arg Ala Val Gly Val Ala Ala Glu
210 215 220

Val Leu Asp Ser Lys Leu Ser Asp Thr Glu Arg Leu Glu Arg Ile Ala
225 230 235 240

Arg Phe Lys Ser Gly Glu Thr Met Val Leu Val Ser Val Met Leu Ile
245 250 255

Ser Glu Gly Phe Asp Val Pro Asp Cys Asp Cys Val Leu Leu Leu Arg
260 265 270

Pro Thr Ser Ser Leu Ser Leu Tyr Leu Gln Gln Val Gly Arg Gly Leu
275 280 285

Arg Phe Ser Gly Glu Pro Cys Val Ile Leu Asp Cys Val Gly Asn Ser
290 295 300

Gln His Pro Asn Leu Gly Leu Pro Asp Asp Phe His His Trp Ser Leu
305 310 315 320

Glu Gly Lys Lys Val Arg Ala Gly Gln Asp Gly Thr Ala Pro Pro Leu
325 330 335

Arg Val Cys Pro Lys Cys Phe Gln Val His Arg Pro Ala Pro Val Cys
340 345 350

Pro Phe Cys Gly Tyr Arg His Pro Val Gln Ser Val Val Pro Arg Glu
355 360 365

Val Asp Ala Val Leu Gln Glu Ser Thr Ala Thr Pro Ile His Thr Val
370 375 380

Pro Lys Arg Glu Val Ile Arg Asn Ala Arg Thr Glu Glu Asp Leu Arg
385 390 395 400

Arg Leu Ala Gln Glu Gln Gly Tyr Lys Pro Gly Trp Val Asp Lys Ile
405 410 415

Leu Ala Ala Arg Asn Ala Arg Arg
420

<210> 235
<211> 269
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 18991 right: 19797 frame: -2 size(aa): 269

<400> 235

Ser Asp Ser Asp Asp Val Gly Arg Ser Ser Arg Thr Gln Ser Gln Ser
1 5 10 15

Gly Thr Ser Lys Pro Ser Glu Ile Ser Met Thr Glu Thr Ser Thr Ile
20 25 30

Val Ser Pro Leu Leu Asn Arg Ala Ile Arg Ser Ser Arg Ser Val Ser
35 40 45

Asp Ser Phe Glu Ser Ser Thr Ser Ala Ala Thr Pro Thr Ala Arg Asn
50 55 60

Ala Ser Gln Val Leu Ala Ala Cys Ser Ile Glu Met Gln Asn Ala Ile
65 70 75 80

Val Arg Arg Pro Ser Ala Asn Val Phe Gln Leu Arg Thr Pro Glu Asn
85 90 95

Thr Ala Arg Ser Leu Pro Gly Ser Lys Ser Gly Gly Gly Trp Asn Arg
100 105 110

Arg Tyr Arg Asp Arg Arg Leu Ser Ala Met Ser Ser Ala Thr Asp Gly
115 120 125

Pro Met Thr Met Ser Trp Asn Thr Ser Pro Arg Pro Arg Pro Ser Ser
130 135 140

Arg Ser Gly Val Ala Val Gln Pro Arg Ser Gly Thr Ser Tyr Ser Ser
145 150 155 160

Ile Phe Arg Ala Gln Val Gly Leu Thr Gln Trp Trp Ala Ser Ser Thr
165 170 175

Ile Ser Arg Ser Gly Arg Lys Trp Val Arg Leu Pro Ile Val Glu Thr
180 185 190

Tyr Thr Pro Arg Phe Gly Pro Gly Val Met Pro Asp Phe Met Ser Arg
195 200 205

Thr Leu Val Trp Trp Arg Ser Ser Arg Arg Cys Thr Arg Ile Arg Ala
210 215 220

Arg Leu Pro Arg Ser Thr Val Arg Leu Ala Ala Ser Met Lys Val Leu
225 230 235 240

Val Leu Pro Pro Pro Val Gly Arg Thr Gln Ser Thr Arg Leu Leu Pro
245 250 255

Leu Ser Ile Asp Ala Arg Ala Ser Val Asn Ser Cys Ser
260 265

<210> 236
<211> 152
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 19269 right: 19724 frame: 1 size(aa): 152

<400> 236

Ser Ser Thr Arg Pro Thr Thr Ala Ser Ala Pro Pro Gly Pro Gly Arg
1 5 10 15

Ser Thr Ser Thr Thr Ser Arg Ser Trp Ala Gly Pro Pro Pro Arg Ser
20 25 30

Gly Ser Thr Ala Gly Ala Trp Ala Arg Cys Ser Arg Thr Trp Ser Ser
35 40 45

Gly Arg Pro Ser Pro Ser Ser Trp Arg Ser Thr Ala Cys Pro Gly Thr
50 55 60

Ala Cys Ser Thr Arg Pro Arg Thr Ser Thr Arg Ala Ala Ser Gly Pro
65 70 75 80

Cys Ser Pro Gly Ser Ala Thr Gly Arg Arg Ser Pro Thr Ala Gly Gly
85 90 95

Arg Ser Arg Ser Ala Ser Arg Ser Ser Met Arg Pro Arg Pro Ala Arg
100 105 110

Arg Ser Gly Pro Ser Val Trp Arg Pro Arg Cys Ser Thr Arg Asn Cys
115 120 125

Pro Thr Pro Ser Gly Ser Ser Gly Ser Pro Gly Ser Arg Ala Ala Arg
130 135 140

Arg Trp Cys Ser Ser Arg Ser Cys
145 150

<210> 237
<211> 81
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 19443 right: 19685 frame: -1 size(aa): 81

<400> 237

Thr Gly Arg Ser Ala Arg Ala Ala Arg Cys Arg Thr Val Ser Ser Arg

1 5 10 15

Ala Pro Arg Pro Pro His Arg Arg Pro Gly Thr Pro Arg Arg Ser Trp
20 25 30

Pro His Ala Arg Ser Arg Cys Arg Thr Arg Ser Ser Ala Gly Arg Arg
35 40 45

Arg Thr Ser Ser Ser Cys Gly Pro Arg Arg Thr Arg Pro Ala Arg Cys
50 55 60

Pro Gly Arg Ser Pro Gly Ala Gly Gly Thr Gly Gly Thr Gly Thr Gly
65 70 75 80

Gly

<210> 238
<211> 157
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 19728 right: 20198 frame: 1 size(aa): 157

<400> 238

Ser Arg Arg Val Ser Thr Ser Pro Thr Ala Thr Ala Ser Cys Cys Ser
1 5 10 15

Ala Arg Arg Arg Arg Cys Arg Ser Thr Ser Ser Arg Ser Ala Gly Ala
20 25 30

Ser Gly Ser Pro Val Ser Pro Ala Ser Ser Ser Thr Ala Trp Ala Thr
35 40 45

Arg Ser Thr Arg Thr Trp Ala Cys Arg Thr Thr Ser Thr Thr Gly Pro
50 55 60

Trp Arg Ala Arg Arg Ser Gly Pro Ala Arg Thr Ala Arg Pro His Arg
65 70 75 80

Ser Gly Ser Ala Arg Ser Ala Ser Arg Ser Thr Ala Arg Arg Arg Ser
85 90 95

Ala Arg Ser Ala Gly Thr Gly Thr Arg Cys Ser Pro Ser Tyr Pro Gly
100 105 110

Arg Trp Met Pro Ser Ser Arg Ser Pro Pro Pro Pro Arg Ser Thr Pro
115 120 125

Cys Pro Ser Gly Arg Ser Ser Gly Thr Pro Gly Pro Arg Arg Thr Cys
130 135 140

Ala Gly Trp Pro Arg Ser Arg Gly Thr Asn Gln Ala Gly
145 150 155

<210> 239
<211> 144

<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 19801 right: 20232 frame: -2 size(aa): 144

<400> 239

Arg Arg Ala Leu Arg Ala Ala Arg Ile Leu Ser Thr Gln Pro Gly Leu
1 5 10 15

Tyr Pro Cys Ser Trp Ala Ser Arg Arg Arg Ser Ser Ser Val Arg Ala
20 25 30

Phe Arg Met Thr Ser Arg Leu Gly Thr Val Trp Ile Gly Val Ala Val
35 40 45

Asp Ser Trp Arg Thr Ala Ser Thr Ser Arg Gly Thr Thr Asp Cys Thr
50 55 60

Gly Cys Arg Tyr Pro Gln Asn Gly Gln Thr Gly Ala Gly Arg Trp Thr
65 70 75 80

Trp Lys His Phe Gly Gln Thr Arg Ser Gly Gly Ala Val Pro Ser Trp
85 90 95

Pro Ala Arg Thr Phe Leu Pro Ser Arg Asp Gln Trp Trp Lys Ser Ser
100 105 110

Gly Arg Pro Arg Phe Gly Cys Cys Glu Leu Pro Thr Gln Ser Arg Met
115 120 125

Thr Gln Gly Ser Pro Glu Asn Arg Arg Pro Arg Pro Thr Cys Trp Arg
130 135 140

<210> 240
<211> 127
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 19840 right: 20220 frame: 2 size(aa): 127

<400> 240

Ala Leu Arg His Pro Arg Leu Arg Gly Gln Leu Ala Ala Pro Glu Pro
1 5 10 15

Gly Pro Ala Gly Arg Leu Pro Pro Leu Val Pro Gly Gly Gln Glu Gly
20 25 30

Pro Gly Arg Pro Gly Arg His Gly Pro Thr Ala Pro Gly Leu Pro Glu
35 40 45

Val Leu Pro Gly Pro Pro Pro Gly Ala Gly Leu Pro Val Leu Arg Val
50 55 60

Pro Ala Pro Gly Ala Val Arg Arg Thr Pro Gly Gly Gly Cys Arg Pro
65 70 75 80

Pro Gly Val His Arg His Pro Asp Pro His Arg Ala Gln Ala Gly Gly
85 90 95

His Pro Glu Arg Pro Asp Arg Gly Gly Pro Ala Pro Ala Gly Pro Gly
100 105 110

Ala Gly Val Gln Thr Arg Leu Gly Arg Gln Asp Pro Gly Arg Pro
115 120 125

<210> 241
<211> 92
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 19851 right: 20126 frame: -1 size(aa): 92

<400> 241

Pro Pro Ala Trp Ala Arg Cys Gly Ser Gly Trp Arg Trp Thr Pro Gly
1 5 10 15

Gly Arg His Pro Pro Pro Gly Val Arg Arg Thr Ala Pro Gly Ala Gly
20 25 30

Thr Arg Arg Thr Gly Arg Pro Ala Pro Gly Gly Gly Pro Gly Ser Thr
35 40 45

Ser Gly Arg Pro Gly Ala Val Gly Pro Cys Arg Pro Gly Arg Pro Gly
50 55 60

Pro Ser Cys Pro Pro Gly Thr Ser Gly Gly Ser Arg Pro Ala Gly Pro
65 70 75 80

Gly Ser Gly Ala Ala Ser Cys Pro Arg Ser Arg Gly
85 90

<210> 242
<211> 81
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 20130 right: 20372 frame: -1 size(aa): 81

<400> 242

Ser Ser Pro Arg Ser Glu Asp Arg Gly Gly Ser His Cys Gly Ser Gly
1 5 10 15

Ile Gly Pro Arg Gly Glu Pro Trp Pro Gly Pro Pro Pro Gly Glu Ser
20 25 30

Ser Phe Gly Gly Trp Phe Arg Ala Val Pro Tyr Asn His Thr Ser Ala

35 40 45

Ala His Tyr Gly Arg Pro Gly Ser Cys Leu Pro Ser Leu Val Cys Thr
50 55 60

Pro Ala Pro Gly Pro Ala Gly Ala Gly Pro Pro Arg Ser Gly Arg Ser
65 70 75 80

Gly

<210> 243
<211> 68
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 20202 right: 20405 frame: 1 size(aa): 68

<400> 243

Thr Arg Ser Trp Pro Pro Val Met Arg Gly Ala Ser Met Val Val Trp
1 5 10 15

His Ser Ala Lys Pro Ser Ser Lys Thr Gly Phe Ala Trp Arg Trp Pro
20 25 30

Arg Pro Trp Leu Pro Thr Trp Ser Tyr Ser Gly Thr Thr Met Gly Ala
35 40 45

Ser Pro Ile Leu Gly Pro Gly Ala Gly Ser Pro Ser Ala Trp Gly Arg
50 55 60

Ala Pro Pro Thr
65

<210> 244
<211> 201
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 20224 right: 20826 frame: 2 size(aa): 201

<400> 244

Cys Ala Ala Leu Val Trp Leu Tyr Gly Thr Ala Arg Asn His Pro Pro
1 5 10 15

Lys Leu Asp Ser Pro Gly Gly Gly Pro Gly His Gly Ser Pro Arg Gly
20 25 30

Pro Ile Pro Glu Pro Gln Trp Glu Pro Pro Arg Ser Ser Asp Arg Gly
35 40 45

Leu Asp His Leu Arg Pro Gly Gly Gly Leu Pro Arg Pro Asp Arg Met
50 55 60

Ala Arg Pro Pro Asp Arg Arg Pro Arg Pro Val Arg Arg Ser Arg Gly
65 70 75 80

Gln Ala Ala Arg Gly Glu Gly Pro Pro Arg Ala Ala Asp Leu Asp Arg
85 90 95

Gln His Gln Arg Gly Arg Arg Pro Cys Arg Tyr Arg His Phe Thr Arg
100 105 110

Gly Gly His Arg Ser Pro Val Gln Ser Pro Leu Ser Leu Arg Gly Thr
115 120 125

Pro Cys Pro Pro Gln Pro Gln Arg Pro Pro Pro Ala Arg Pro Ala Pro
130 135 140

Gly Ser Pro Ala Ser Ser Gln Ser Cys Ser Thr Cys Pro Arg Pro Ser
145 150 155 160

Ser Ser Ala Ser Ile Gly Arg Arg Thr Arg Thr Gly Gly Pro Val Arg
165 170 175

Leu Arg Ser Ser Thr Cys Ser Arg Pro Pro Ser Thr Pro Ala Arg Ser
180 185 190

Ala Asp Arg Thr Thr Gly Pro Val Gln
195 200

<210> 245
<211> 118
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 20236 right: 20589 frame: -2 size(aa): 118

<400> 245

Gly Gly Leu Asp Arg Arg Ala Met Ala Ser Ser Gly Glu Val Thr Val
1 5 10 15

Pro Ala Arg Pro Pro Ala Ala Leu Met Leu Ser Ile Gln Val Cys Cys
20 25 30

Ser Gly Arg Ala Phe Ser Pro Gly Ser Leu Thr Ser Arg Pro Thr Asn
35 40 45

Trp Ala Arg Ala Pro Ile Trp Arg Thr Arg His Pro Ile Arg Ser Gly
50 55 60

Glu Pro Ser Pro Arg Pro Lys Val Ile Gln Pro Pro Val Arg Gly Ser
65 70 75 80

Gly Arg Leu Pro Leu Trp Phe Arg Asn Arg Thr Thr Trp Gly Ala Met
85 90 95

Ala Trp Ala Thr Ser Arg Arg Ile Gln Phe Trp Arg Met Val Ser Arg
100 105 110

Cys Ala Ile Gln Pro Tyr
115

<210> 246
<211> 172
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 20237 right: 20752 frame: 3 size(aa): 172

<400> 246

Tyr Gly Cys Met Ala Gln Arg Glu Thr Ile Leu Gln Asn Trp Ile Arg
1 5 10 15

Leu Glu Val Ala Gln Ala Met Ala Pro His Val Val Leu Phe Arg Asn
20 25 30

His Asn Gly Ser Leu Pro Asp Pro Arg Thr Gly Gly Trp Ile Thr Phe
35 40 45

Gly Leu Gly Glu Gly Ser Pro Asp Leu Ile Gly Trp Arg Val Leu Gln
50 55 60

Ile Gly Ala Leu Ala Gln Phe Val Gly Leu Glu Val Lys Leu Pro Gly
65 70 75 80

Glu Lys Ala Arg Pro Glu Gln Gln Thr Trp Ile Asp Asn Ile Asn Ala
85 90 95

Ala Gly Gly Leu Ala Gly Thr Val Thr Ser Pro Glu Glu Ala Ile Ala
100 105 110

Leu Leu Ser Ser Pro Pro Tyr Pro Phe Glu Val His His Ala Pro Arg
115 120 125

Asn Arg Arg Gly Pro Arg Pro Gln Asp Pro Leu Pro Glu Ala Arg Pro
130 135 140

Gln Ala Ser Pro Ala Leu His Ala Arg Gly Pro Arg Arg Ala Pro Arg
145 150 155 160

Ser Gly Glu Gly Pro Gly Pro Ala Asp Pro Phe Gly
165 170

<210> 247
<211> 76
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 20324 right: 20551 frame: -3 size(aa): 76

<400> 247

Ser Asp Gly Thr Gly Lys Ala Ala Gly Arg Val Asp Val Val Asp Pro

1 5 10 15

Gly Leu Leu Leu Gly Ala Gly Leu Leu Pro Gly Gln Leu Asp Leu Glu
20 25 30

Thr Asp Glu Leu Gly Glu Gly Ala Asp Leu Glu Asp Ala Pro Ser Asp
35 40 45

Gln Val Gly Gly Ala Leu Pro Gln Ala Glu Gly Asp Pro Ala Pro Gly
50 55 60

Pro Arg Ile Gly Glu Ala Pro Ile Val Val Pro Glu
65 70 75

<210> 248
<211> 131
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 20409 right: 20801 frame: 1 size(aa): 131

<400> 248

Ser Asp Gly Ala Ser Ser Arg Ser Ala Pro Ser Pro Ser Ser Ser Val
1 5 10 15

Ser Arg Ser Ser Cys Pro Gly Arg Arg Pro Ala Pro Ser Ser Arg Pro
20 25 30

Gly Ser Thr Thr Ser Thr Arg Pro Ala Ala Leu Pro Val Pro Ser Leu
35 40 45

His Pro Arg Arg Pro Ser Leu Ser Cys Pro Val Pro Pro Ile Pro Ser
50 55 60

Arg Tyr Thr Met Pro Pro Ala Thr Ala Glu Ala Pro Ala Arg Lys Thr
65 70 75 80

Arg Ser Arg Lys Pro Gly Leu Lys Pro Val Leu Leu Tyr Met Pro Glu
85 90 95

Ala Leu Val Glu Arg Leu Asp Arg Ala Lys Asp Gln Asp Arg Arg Thr
100 105 110

Arg Ser Ala Glu Ile Phe His Leu Leu Glu Ala Ala Leu Asp Ala Arg
115 120 125

Ser Ile Gly
130

<210> 249
<211> 116
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 20550 right: 20897 frame: -1 size(aa): 116

<400> 249

Gly Tyr Asp Arg Cys Gly Arg Arg Ser Cys Ser Val Glu Ala Pro Arg
1 5 10 15

Glu Gln Ser Trp Gly Ala Ser His Cys Thr Gly Pro Val Val Arg Ser
20 25 30

Ala Asp Arg Ala Gly Val Glu Gly Gly Leu Glu Gln Val Glu Asp Leu
35 40 45

Ser Arg Thr Gly Pro Pro Val Leu Val Leu Arg Pro Ile Glu Ala Leu
50 55 60

Asp Glu Gly Leu Gly His Val Glu Gln Asp Trp Leu Glu Ala Gly Leu
65 70 75 80

Pro Gly Ala Gly Leu Ala Gly Gly Gly Leu Cys Gly Cys Gly Gly His
85 90 95

Gly Val Pro Arg Arg Asp Arg Gly Asp Trp Thr Gly Glu Arg Trp Pro
100 105 110

Pro Arg Val Lys
115

<210> 250
<211> 63
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 20671 right: 20859 frame: -2 size(aa): 63

<400> 250

Gly Pro Pro Gly Ala Ile Leu Gly Gly Leu Ser Leu Tyr Gly Ala Arg
1 5 10 15

Gly Ser Ile Ser Arg Ser Ser Gly Arg Arg Gly Arg Pro Arg Ala Gly
20 25 30

Gly Arg Ser Gln Pro Asn Gly Ser Ala Gly Pro Gly Pro Ser Pro Asp
35 40 45

Arg Gly Ala Arg Arg Gly Pro Arg Ala Cys Arg Ala Gly Leu Ala
50 55 60

<210> 251
<211> 76
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 20687 right: 20914 frame: -3 size(aa): 76

<400> 251

Cys Leu Arg Trp Ser Lys Gly Met Thr Ala Val Ala Gly Gly His Ala
1 5 10 15

Val Leu Arg Pro Pro Gly Ser Asn Pro Gly Gly Pro Leu Thr Val Arg
20 25 30

Gly Pro Trp Phe Asp Gln Pro Ile Glu Arg Ala Ser Arg Ala Ala Ser
35 40 45

Ser Arg Trp Lys Ile Ser Ala Glu Arg Val Arg Arg Ser Trp Ser Phe
50 55 60

Ala Arg Ser Arg Arg Ser Thr Arg Ala Ser Gly Met
65 70 75

<210> 252
<211> 54
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 20756 right: 20917 frame: 3 size(aa): 54

<400> 252

Asp Leu Pro Pro Ala Arg Gly Arg Pro Arg Arg Pro Leu Asp Arg Leu
1 5 10 15

Ile Glu Pro Arg Ala Pro Tyr Ser Glu Arg Pro Pro Arg Ile Ala Pro
20 25 30

Gly Gly Pro Gln His Cys Met Thr Ala Cys His Ser Gly His Thr Leu
35 40 45

Thr Pro Pro Gln Thr Leu
50

<210> 253
<211> 274
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 20830 right: 21651 frame: 2 size(aa): 274

<400> 253

Glu Ala Pro Gln Asp Cys Ser Arg Gly Ala Ser Thr Leu His Asp Arg
1 5 10 15

Leu Pro Gln Arg Ser Tyr Pro Tyr Ser Thr Ser Asp Thr Ile Ala Asp
20 25 30

Val Asn Pro Arg Thr Ser Leu Arg Pro Gly Pro Asp Pro Pro Pro Pro

35 40 45

Val Ala Pro Pro Glu Gly His Arg His Asp Pro Val Pro Gly Asp Leu
50 55 60

Ala Gln Ala Arg Gly Gln Gly Lys Ser Leu Asp Asp Ala Pro Asp Arg
65 70 75 80

Gly His Gly Pro Gly Arg Arg His Pro Gly Ile Gln Gln Leu His Arg
85 90 95

Arg Arg Arg Arg Arg Arg Leu Arg Arg Arg Asp His Gln Cys Gln Arg
100 105 110

His Leu Arg Arg Val Gly Arg Arg Arg Pro Gly Leu Ala Gly Arg Arg
115 120 125

Leu Gly Gly Leu Arg Pro Ala Ala Ala Glu Leu Pro Ala Ala His Arg
130 135 140

Gly Gln Val Asp Pro Pro Leu Leu Gly Val Pro Gln Pro Cys Gly Arg
145 150 155 160

Pro Gly Leu Asp Arg Ala Pro Gly Pro Pro Asp Arg Pro Gly Arg Leu
165 170 175

Arg His Asp Glu Pro Glu Pro Leu Pro Gly Asp Ala Pro Gly Arg Leu
180 185 190

Pro Pro Pro Ala His Arg Gly Gly Gly Pro Asp Leu Gln Arg Asp Arg
195 200 205

Gly Ala Leu Arg Pro Arg Ala Asp Ala Ala Gly Pro Ala Pro Gly Ala
210 215 220

Asp Arg Pro Ala Gly Cys Arg Pro Gly Gly Pro Gly Arg Cys Pro Gln
225 230 235 240

Phe Asp Gly Arg His Pro Gly Arg Pro Gly Pro Asp Pro Thr Pro Ser
245 250 255

Arg Gly Arg Glu Arg His Leu Arg Arg Val Pro Gln His Pro Leu Gly
260 265 270

Pro Gly

<210> 254
<211> 56
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 20874 right: 21041 frame: 1 size(aa): 56

<400> 254

Pro Pro Ala Thr Ala Val Ile Pro Leu Leu His Leu Arg His Tyr Ser
1 5 10 15

```
Arg Cys Gln Pro Pro His Gln Pro Ser Thr Gly Thr Arg Ser Ser Ser
            20                  25                  30

Thr Cys Arg Ser Ser Gly Arg Thr Ser Pro Arg Pro Gly Thr Gly Arg
        35                  40                  45

Ser Gly Pro Gly Glu Arg Thr Arg
    50                  55
```

<210> 255
<211> 63
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 20901 right: 21089 frame: -1 size(aa): 63

<400> 255

```
Arg Arg Pro Gly Pro Trp Pro Arg Ser Gly Ala Ser Ser Arg Leu Leu
1               5                   10                  15

Pro Cys Pro Leu Ala Trp Ala Arg Ser Pro Gly Thr Gly Ser Trp Arg
            20                  25                  30

Cys Pro Ser Gly Gly Ala Thr Gly Gly Gly Gly Ser Gly Pro Gly Arg
        35                  40                  45

Arg Leu Val Arg Gly Leu Thr Ser Ala Ile Val Ser Glu Val Glu
    50                  55                  60
```

<210> 256
<211> 66
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 20911 right: 21108 frame: -2 size(aa): 66

<400> 256

```
Leu Leu Asn Pro Trp Val Thr Ala Ser Trp Thr Val Ala Pro Val Arg
1               5                   10                  15

Gly Val Val Gln Ala Phe Thr Leu Ser Ser Arg Leu Gly Gln Ile Ala
            20                  25                  30

Arg Tyr Arg Val Val Ala Met Ser Phe Arg Arg Ser Asp Arg Trp Arg
        35                  40                  45

Arg Ile Trp Ser Arg Ser Lys Ala Gly Ala Gly Val Asp Ile Cys Tyr
    50                  55                  60

Ser Val
65
```

<210> 257
<211> 738
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 20921 right: 23134 frame: 3 size(aa): 738

<400> 257

Gln Met Ser Thr Pro Ala Pro Ala Phe Asp Arg Asp Gln Ile Leu Leu
1 5 10 15

His Leu Ser Leu Leu Arg Lys Asp Ile Ala Thr Thr Arg Tyr Arg Ala
20 25 30

Ile Trp Pro Arg Arg Glu Asp Lys Val Lys Ala Trp Thr Thr Pro Leu
35 40 45

Thr Gly Ala Thr Val Gln Asp Ala Val Thr Gln Gly Phe Asn Ser Tyr
50 55 60

Ile Val Val Gly Asp Gly Gly Asp Ser Asp Ala Glu Ile Thr Ser Val
65 70 75 80

Asn Ala Ile Phe Gly Glu Trp Asp Asp Gly Asp Leu Ala Trp Gln Val
85 90 95

Gly Ala Trp Glu Ala Cys Gly Leu Pro Arg Pro Ser Phe Gln Leu Arg
100 105 110

Thr Gly Gly Lys Ser Ile His His Tyr Trp Val Phe His Ser Pro Val
115 120 125

Asp Val Pro Ala Trp Thr Glu Leu Gln Ala Arg Leu Ile Ala Leu Ala
130 135 140

Gly Phe Asp Thr Thr Asn Arg Asn Pro Ser Arg Val Met Arg Leu Ala
145 150 155 160

Gly Cys Pro His Gln Arg Thr Gly Glu Val Ala Gln Ile Phe Asn Ala
165 170 175

Thr Gly Glu Leu Tyr Asp Pro Gly Gln Met Leu Gln Val Leu Pro Pro
180 185 190

Val Pro Ile Asp Pro Pro Ala Ala Ala Pro Val Ala Pro Gly Gly Ala
195 200 205

Pro Ser Ser Met Asp Asp Ile Arg Ala Ala Leu Ala Gln Ile Pro Pro
210 215 220

Arg Pro Gly Ala Gly Ser Gly Thr Tyr Ala Glu Tyr Arg Asn Ile Leu
225 230 235 240

Trp Gly Leu Val Lys Ala Val Glu Glu Ala Gly Gly Thr Arg Asp Gln
245 250 255

Ala Val Ala Met Met Gln Ala His Ser Pro Glu Gly Trp Asp Cys Ala

260 265 270

Gln Val Ala Arg Ser Gly Gly Lys Lys Ile Ser Thr Gly Thr Phe Trp
275 280 285

Trp His Ala Met Ser Tyr Gly Trp Ala Pro Pro Lys Lys Ala Pro Glu
290 295 300

Pro Pro Pro Gln Ala Arg Gln Val Pro Ala Val Ala Ala Val Leu Gln
305 310 315 320

Ala Ala Glu Ala Ala Pro Gly Thr Gly Thr Glu His Gly Pro Trp Ala
325 330 335

Pro Leu Pro Pro Gly Trp Gln Gly Thr Asn Lys Glu Gly Leu Pro Arg
340 345 350

Ala Ser Gln Ile Thr Thr Tyr Glu Leu Ala Leu Leu Met Gln Val Ser
355 360 365

Leu Arg Gly Val Leu Trp His Asn Glu Met Ser Gly Glu Val Met His
370 375 380

Gly Lys Thr Ala Leu Ser Pro Ile Glu Leu Gln Ile Ala Tyr Ser Arg
385 390 395 400

Leu Glu Gly Leu Gly Tyr Lys Val Thr Lys Glu Asn Ala Lys Thr Ala
405 410 415

Ile Leu Gln Ala Ser Ile Ala Asp Leu Arg His Pro Val Arg Glu Tyr
420 425 430

Leu Asn Thr Cys Thr Thr Pro Leu Pro Asp Glu Val Trp Ala Asp Ile
435 440 445

Ala Asn Ala Leu Leu Gly Pro Gly His Ser Ala Phe Asp Ser Ser Ala
450 455 460

Ile Arg Lys Trp Leu Ile Phe Ala Val Ala Arg Val Phe Gln Pro Gly
465 470 475 480

Cys Pro Phe Gly Phe Met Leu Val Leu Ala Gly Ala Gln Gln Met His
485 490 495

Lys Thr Arg Phe Phe Asn Thr Leu Ala Ser Asp Glu Trp Phe Leu Gly
500 505 510

Gly Phe Gln Arg Gly Arg Ser Asp Thr Asp Asp Leu Ile Ala Leu His
515 520 525

Arg Ser Trp Ile Thr Glu Trp Gly Glu Leu Asp Gly Gly Leu Ser Lys
530 535 540

His Asp Ser Ala Glu Leu Lys Ala Met Ile Asp Arg Lys Val Asp Val
545 550 555 560

Leu Arg Arg Pro Tyr Ala Ala Thr His Glu Ser Cys Pro Arg Ser Phe
565 570 575

Val Leu Cys Gly Thr Thr Asn Arg Arg Asp Gly Leu Phe Thr Asp Pro
580 585 590

Thr Gly Asn Arg Arg Tyr Val Val Val Pro Val Asn Gln Arg Ile Asp
595 600 605

Ser Glu Arg Leu Glu Gln Met Arg Asp Gln Ile Trp Ala Thr Ala Leu
610 615 620

Arg Glu Tyr Arg Ser Gly Lys Leu Trp Tyr Leu Asp Glu Glu Glu Leu
625 630 635 640

Glu Ile Asn Ala Lys Arg Asn Lys Gly Leu Glu Val Glu Asp Ala Trp
645 650 655

Val Gly Thr Ile Gln Met His Leu Asn Ser Ser Ile Asp Leu Glu Arg
660 665 670

Leu Thr Asp Gly Arg Tyr Gly Ile Asn Ile Glu Ser Val Tyr Leu Lys
675 680 685

Ile Glu Pro Glu Val Gly Arg Arg Gly Pro Gly Phe Gly Lys Arg Ile
690 695 700

Arg Asp Thr Met Leu Ser Leu Gly Trp Glu Pro Val Arg Leu Arg Leu
705 710 715 720

Ala Ser Asp Pro Ser Gly Asn Pro Val Arg Arg Trp Ala Pro Val Gln
725 730 735

Gly Gly

<210> 258
<211> 375
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 20930 right: 22054 frame: -3 size(aa): 375

<400> 258

His Leu Val Val Pro Glu His Pro Pro Gln Gly Asp Leu His Gln Gln
1 5 10 15

Gly Gln Phe Val Gly Gly Asp Leu Arg Gly Pro Gly Gln Ala Leu Leu
20 25 30

Val Arg Ala Leu Pro Ala Arg Gly Gln Arg Arg Pro Gly Ala Val Leu
35 40 45

Gly Ala Gly Ser Arg Gly Gly Leu Cys Gly Leu Glu His Gly Gly His
50 55 60

Gly Arg His Leu Ala Gly Leu Gly Arg Arg Leu Arg Gly Leu Leu Arg
65 70 75 80

Arg Cys Pro Ala Val Gly His Arg Met Pro Pro Glu Arg Pro Gly Ala
85 90 95

```
Asp Leu Leu Ala Pro Gly Ala Gly His Leu Gly Ala Ile Pro Ala Leu
            100                 105                 110

Gly Ala Val Arg Leu His His Gly His Gly Leu Val Pro Gly Ala Ala
        115                 120                 125

Gly Leu Leu Asp Gly Leu Asn Gln Ala Pro Glu Asp Val Ala Val Leu
    130                 135                 140

Gly Val Gly Ala Ala Pro Cys Pro Gly Thr Gly Trp Asp Leu Gly Gln
145                 150                 155                 160

Gly Gly Pro Asp Val Val His Arg Thr Gly Gly Thr Ser Arg Gly His
                165                 170                 175

Arg Gly Gly Ser Arg Arg Val Asp Arg His Arg Gly Gln Asp Leu Gln
            180                 185                 190

His Leu Pro Gly Val Val Glu Leu Pro Gly Arg Val Glu Asp Leu Gly
        195                 200                 205

His Leu Pro Gly Ala Leu Val Gly Ala Ala Gly Gln Ala His His Pro
    210                 215                 220

Gly Gly Val Pro Val Arg Arg Val Glu Ala Gly Gln Gly Asp Gln Ala
225                 230                 235                 240

Gly Leu Glu Leu Gly Pro Gly Arg Asp Val His Arg Ala Val Glu His
                245                 250                 255

Pro Val Val Val Asp Arg Leu Ala Pro Gly Ala Gln Leu Glu Ala Arg
            260                 265                 270

Pro Arg Gln Ala Ala Gly Leu Pro Gly Ala Asp Leu Pro Gly Gln Val
        275                 280                 285

Ala Val Val Pro Leu Ala Glu Asp Gly Val Asp Thr Gly Asp Leu Gly
    290                 295                 300

Val Gly Val Ala Ala Val Ala Tyr Asp Asp Val Ala Val Glu Ser Leu
305                 310                 315                 320

Gly Asp Gly Val Leu Asp Arg Gly Pro Gly Gln Gly Arg Arg Pro Gly
                325                 330                 335

Phe Tyr Leu Val Leu Ser Pro Gly Pro Asp Arg Pro Val Pro Gly Arg
            340                 345                 350

Gly Asp Val Leu Pro Glu Glu Arg Gln Val Glu Glu Asp Leu Val Pro
        355                 360                 365

Val Glu Gly Trp Cys Gly Gly
    370                 375
```

<210> 259
<211> 56
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature

<223> >New ORF = left: 21112 right: 21279 frame: -2 size(aa): 56

<400> 259

Trp Trp Ile Asp Leu Pro Pro Val Arg Ser Trp Lys Leu Gly Arg Gly
1 5 10 15

Arg Pro Gln Ala Ser Gln Ala Pro Thr Cys Gln Ala Arg Ser Pro Ser
20 25 30

Ser His Ser Pro Lys Met Ala Leu Thr Leu Val Ile Ser Ala Ser Glu
35 40 45

Ser Pro Pro Ser Pro Thr Thr Met
50 55

<210> 260
<211> 72
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 21123 right: 21338 frame: 1 size(aa): 72

<400> 260

Ala Thr Ala Ala Thr Pro Thr Pro Arg Ser Pro Val Ser Thr Pro Ser
1 5 10 15

Ser Ala Ser Gly Thr Thr Ala Thr Trp Pro Gly Arg Ser Ala Pro Gly
20 25 30

Arg Pro Ala Ala Cys Arg Gly Arg Ala Ser Ser Cys Ala Pro Gly Ala
35 40 45

Ser Arg Ser Thr Thr Thr Gly Cys Ser Thr Ala Leu Trp Thr Ser Arg
50 55 60

Pro Gly Pro Ser Ser Arg Pro Ala
65 70

<210> 261
<211> 93
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 21162 right: 21440 frame: -1 size(aa): 93

<400> 261

Arg Ser Gly Pro Pro Pro Arg Cys Ala Gly Gly Gly Ser Arg Pro Gly
1 5 10 15

Ala Ser Pro Gly Arg Gly Ser Gly Ser Ser Cys Arg Ser Arg Pro Gly
20 25 30

```
Arg Ser Gly Gly Pro Gly Ala Arg Ser Arg Pro Gly Arg Pro Gln Gly
        35                  40                  45

Cys Gly Thr Pro Ser Ser Gly Gly Ser Thr Cys Pro Arg Cys Ala Ala
    50                  55                  60

Gly Ser Ser Ala Ala Ala Gly Arg Arg Pro Pro Arg Arg Arg Pro Ala
65                  70                  75                  80

Arg Pro Gly Arg Arg Arg Pro Thr Arg Arg Arg Trp Arg
                85                  90
```

<210> 262
<211> 59
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 21283 right: 21459 frame: -2 size(aa): 59

<400> 262

```
Ser Ser Pro Val Ala Leu Lys Ile Trp Ala Thr Ser Pro Val Arg Trp
1               5                   10                  15

Trp Gly Gln Pro Ala Arg Arg Ile Thr Arg Glu Gly Phe Arg Phe Val
            20                  25                  30

Val Ser Lys Pro Ala Arg Ala Ile Arg Arg Ala Trp Ser Ser Val Gln
        35                  40                  45

Ala Gly Thr Ser Thr Gly Leu Trp Asn Thr Gln
    50                  55
```

<210> 263
<211> 103
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 21390 right: 21698 frame: 1 size(aa): 103

<400> 263

```
Cys Ala Trp Pro Ala Ala Pro Thr Ser Ala Pro Gly Arg Trp Pro Arg
1               5                   10                  15

Ser Ser Thr Arg Pro Gly Ser Ser Thr Thr Pro Gly Arg Cys Cys Arg
            20                  25                  30

Ser Cys Pro Arg Cys Arg Ser Thr Arg Arg Leu Pro Pro Arg Trp Pro
        35                  40                  45

Arg Glu Val Pro Pro Val Arg Trp Thr Thr Ser Gly Pro Pro Trp Pro
    50                  55                  60
```

Arg Ser His Pro Val Pro Gly Gln Gly Ala Ala Pro Thr Pro Ser Thr
65 70 75 80

Ala Thr Ser Ser Gly Ala Trp Leu Arg Pro Ser Arg Arg Pro Ala Ala
85 90 95

Pro Gly Thr Arg Pro Trp Pro
100

<210> 264
<211> 69
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 21444 right: 21650 frame: -1 size(aa): 69

<400> 264

Pro Gly Pro Arg Gly Cys Cys Gly Thr Arg Arg Arg Cys Arg Ser Leu
1 5 10 15

Pro Arg Asp Gly Val Gly Ser Gly Pro Gly Arg Pro Gly Cys Arg Pro
20 25 30

Ser Asn Trp Gly His Leu Pro Gly Pro Pro Gly Arg Gln Pro Ala Gly
35 40 45

Arg Ser Ala Pro Gly Ala Gly Pro Ala Ala Ser Ala Arg Gly Arg Arg
50 55 60

Ala Pro Arg Ser Arg
65

<210> 265
<211> 51
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 21463 right: 21615 frame: -2 size(aa): 51

<400> 265

Val Pro Leu Pro Ala Pro Gly Arg Gly Gly Ile Trp Ala Arg Ala Ala
1 5 10 15

Arg Met Ser Ser Ile Glu Leu Gly Ala Pro Pro Gly Ala Thr Gly Ala
20 25 30

Ala Ala Gly Gly Ser Ile Gly Thr Gly Gly Arg Thr Cys Ser Ile Cys
35 40 45

Pro Gly Ser
50

<210> 266

<211> 60
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 21619 right: 21798 frame: -2 size(aa): 60

<400> 266

Asp Ile Ala Cys His Gln Asn Val Pro Val Leu Ile Phe Leu Pro Pro
1 5 10 15

Glu Arg Ala Thr Trp Ala Gln Ser Gln Pro Ser Gly Leu Cys Ala Cys
20 25 30

Ile Met Ala Thr Ala Trp Ser Arg Val Pro Pro Ala Ser Ser Thr Ala
35 40 45

Leu Thr Arg Pro Gln Arg Met Leu Arg Tyr Ser Ala
50 55 60

<210> 267
<211> 256
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 21655 right: 22422 frame: 2 size(aa): 256

<400> 267

Gly Arg Arg Gly Gly Arg Arg His Pro Gly Pro Gly Arg Gly His Asp
1 5 10 15

Ala Gly Ala Gln Pro Arg Gly Leu Gly Leu Arg Pro Gly Gly Pro Leu
20 25 30

Arg Gly Gln Glu Asp Gln His Arg Asp Val Leu Val Ala Cys Asp Val
35 40 45

Leu Arg Leu Gly Thr Ala Glu Glu Gly Pro Gly Ala Ala Ala Pro Gly
50 55 60

Pro Pro Gly Ala Gly Arg Gly Arg Arg Ala Pro Gly Arg Arg Gly Arg
65 70 75 80

Pro Trp Asn Arg His Arg Ala Arg Pro Leu Gly Ala Ala Ala Pro Gly
85 90 95

Leu Ala Gly His Glu Gln Gly Gly Pro Ala Gln Gly Leu Ala Asp His
100 105 110

His Leu Arg Thr Gly Pro Ala Asp Ala Gly Leu Pro Ala Gly Gly Ala
115 120 125

Leu Ala Gln Arg Asp Val Arg Arg Ser His Ala Arg Gln Asp Gly Pro
130 135 140

```
Leu Ala Asp Arg Ala Pro Asp Arg Leu Gln Pro Ala Arg Gly Pro Arg
145                 150                 155                 160

Leu Gln Gly His Gln Gly Glu Arg Gln Asp Arg His Pro Ala Gly Val
                165                 170                 175

Asp Arg Arg Pro Ala Ala Pro Arg Pro Gly Val Pro Gln His Leu His
            180                 185                 190

Asp Ala Pro Ala Arg Arg Gly Leu Gly Arg His Arg Gln Arg Pro Ala
        195                 200                 205

Gly Pro Arg Ala Gln Arg Val Arg Leu Gln Arg His Pro Gln Val Ala
    210                 215                 220

Asp Leu Arg Arg Gly Pro Gly Leu Pro Ala Arg Leu Pro Leu Arg Leu
225                 230                 235                 240

His Ala Gly Ala Gly Trp Arg Pro Ala Asp Ala Gln Asp Pro Val Leu
                245                 250                 255
```

<210> 268
<211> 103
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 21702 right: 22010 frame: 1 size(aa): 103

<400> 268

```
Cys Arg Arg Thr Ala Pro Arg Ala Gly Ile Ala Pro Arg Trp Pro Ala
1               5                   10                  15

Pro Gly Ala Arg Arg Ser Ala Pro Gly Arg Ser Gly Gly Met Arg Cys
            20                  25                  30

Pro Thr Ala Gly His Arg Arg Arg Arg Pro Arg Ser Arg Arg Pro Arg
        35                  40                  45

Pro Ala Arg Cys Arg Pro Trp Pro Pro Cys Ser Arg Pro Gln Arg Pro
    50                  55                  60

Pro Leu Glu Pro Ala Pro Ser Thr Ala Pro Gly Arg Arg Cys Pro Arg
65                  70                  75                  80

Ala Gly Arg Ala Arg Thr Arg Arg Ala Cys Pro Gly Pro Arg Arg Ser
                85                  90                  95

Pro Pro Thr Asn Trp Pro Cys
            100
```

<210> 269
<211> 73
<212> PRT
<213> Cyanophage S-2L

<220>

<221> misc_feature
<223> >New ORF = left: 21768 right: 21986 frame: -1 size(aa): 73

<400> 269

Ser Ala Arg Pro Trp Ala Gly Pro Pro Cys Ser Cys Pro Ala Ser Pro
1 5 10 15

Gly Ala Ala Ala Pro Arg Gly Arg Ala Arg Cys Arg Phe Gln Gly Arg
20 25 30

Pro Leu Arg Pro Gly Ala Arg Arg Pro Arg Pro Ala Pro Gly Gly Pro
35 40 45

Gly Ala Ala Ala Pro Gly Pro Ser Ser Ala Val Pro Ser Arg Arg Thr
50 55 60

Ser His Ala Thr Arg Thr Ser Arg Cys
65 70

<210> 270
<211> 64
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 21802 right: 21993 frame: -2 size(aa): 64

<400> 270

Val Val Ile Cys Glu Ala Leu Gly Arg Pro Ser Leu Phe Val Pro Cys
1 5 10 15

Gln Pro Gly Gly Ser Gly Ala Gln Gly Pro Cys Ser Val Pro Val Pro
20 25 30

Gly Ala Ala Ser Ala Ala Trp Ser Thr Ala Ala Thr Ala Gly Thr Trp
35 40 45

Arg Ala Trp Gly Gly Gly Ser Gly Ala Phe Phe Gly Gly Ala Gln Pro
50 55 60

<210> 271
<211> 104
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 22014 right: 22325 frame: 1 size(aa): 104

<400> 271

Cys Arg Ser Pro Cys Gly Gly Cys Ser Gly Thr Thr Arg Cys Gln Ala
1 5 10 15

Lys Ser Cys Thr Ala Arg Arg Pro Ser Arg Arg Ser Ser Ser Arg Ser

20 25 30

Pro Thr Ala Gly Ser Arg Ala Ser Ala Thr Arg Ser Pro Arg Arg Thr
35 40 45

Pro Arg Pro Pro Ser Cys Arg Arg Arg Ser Pro Thr Cys Gly Thr Pro
50 55 60

Ser Gly Ser Thr Ser Thr Pro Ala Arg Arg Pro Cys Pro Thr Arg Ser
65 70 75 80

Gly Pro Thr Ser Pro Thr Pro Cys Trp Ala Pro Gly Thr Ala Arg Ser
85 90 95

Thr Pro Ala Pro Ser Ala Ser Gly
100

<210> 272
<211> 126
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 22058 right: 22435 frame: -3 size(aa): 126

<400> 272

Gly Gln Gly Val Lys Glu Pro Gly Leu Val His Leu Leu Gly Ala Ser
1 5 10 15

Gln His Gln His Glu Ala Glu Gly Ala Ala Gly Leu Glu Asp Pro Gly
20 25 30

His Gly Glu Asp Gln Pro Leu Ala Asp Gly Ala Gly Val Glu Arg Ala
35 40 45

Val Pro Gly Ala Gln Gln Gly Val Gly Asp Val Gly Pro Asp Leu Val
50 55 60

Gly Gln Gly Arg Arg Ala Gly Val Glu Val Leu Pro Asp Gly Val Pro
65 70 75 80

Gln Val Gly Asp Arg Arg Leu Gln Asp Gly Gly Leu Gly Val Leu Leu
85 90 95

Gly Asp Leu Val Ala Glu Ala Leu Glu Pro Ala Val Gly Asp Leu Glu
100 105 110

Leu Asp Arg Arg Glu Gly Arg Leu Ala Val His Asp Phe Ala
115 120 125

<210> 273
<211> 158
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 22138 right: 22611 frame: -2 size(aa): 158

<400> 273

Gly Leu Arg Ser Thr Ser Thr Phe Arg Ser Ile Ile Ala Leu Ser Ser
1 5 10 15

Ala Leu Ser Cys Leu Glu Arg Pro Pro Ser Ser Ser Pro His Ser Val
20 25 30

Ile Gln Asp Arg Cys Arg Ala Ile Arg Ser Ser Val Ser Glu Arg Pro
35 40 45

Arg Trp Asn Pro Pro Arg Asn His Ser Ser Glu Ala Arg Val Leu Lys
50 55 60

Asn Arg Val Leu Cys Ile Cys Trp Ala Pro Ala Ser Thr Ser Met Lys
65 70 75 80

Pro Lys Gly Gln Pro Gly Trp Lys Thr Arg Ala Thr Ala Lys Ile Ser
85 90 95

His Leu Arg Met Ala Leu Glu Ser Asn Ala Leu Cys Pro Gly Pro Ser
100 105 110

Arg Ala Leu Ala Met Ser Ala Gln Thr Ser Ser Gly Arg Gly Val Val
115 120 125

Gln Val Leu Arg Tyr Ser Arg Thr Gly Cys Arg Arg Ser Ala Ile Asp
130 135 140

Ala Cys Arg Met Ala Val Leu Ala Phe Ser Leu Val Thr Leu
145 150 155

<210> 274
<211> 51
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 22221 right: 22373 frame: -1 size(aa): 51

<400> 274

Ser Arg Arg Gly Ser Arg Ala Gly Arg Pro Gly Pro Arg Arg Arg Ser
1 5 10 15

Ala Thr Cys Gly Trp Arg Trp Ser Arg Thr Arg Cys Ala Arg Gly Pro
20 25 30

Ala Gly Arg Trp Arg Cys Arg Pro Arg Pro Arg Arg Ala Gly Ala Ser
35 40 45

Cys Arg Cys
50

<210> 275
<211> 54
<212> PRT

<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 22329 right: 22490 frame: 1 size(aa): 54

<400> 275

Ser Ser Pro Trp Pro Gly Ser Ser Ser Pro Ala Ala Pro Ser Ala Ser
1 5 10 15

Cys Trp Cys Trp Leu Ala Pro Ser Arg Cys Thr Arg Pro Gly Ser Leu
20 25 30

Thr Pro Trp Pro Gln Thr Ser Gly Ser Trp Ala Asp Ser Ser Gly Ala
35 40 45

Ala Leu Thr Pro Thr Thr
50

<210> 276
<211> 177
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 22439 right: 22969 frame: -3 size(aa): 177

<400> 276

Leu Asp Val Asp Ala Val Ala Pro Val Gly Gln Pro Leu Gln Val Asp
1 5 10 15

Arg Ala Ile Gln Val His Leu Asp Arg Pro His Pro Gly Val Leu His
20 25 30

Leu Lys Ala Leu Val Ala Phe Arg Val Asp Leu Gln Leu Leu Leu Val
35 40 45

Glu Val Pro Glu Leu Ala Ala Ala Val Leu Pro Glu Gly Gly Cys Pro
50 55 60

Asp Leu Val Ser His Leu Leu Gln Ala Leu Ala Val Asp Pro Leu Val
65 70 75 80

Asp Gly His Asp His Val Pro Pro Val Ala Gly Arg Val Gly Glu Glu
85 90 95

Pro Ile Pro Ala Val Arg Arg Pro Ala Glu Asp Glu Ala Pro Gly Ala
100 105 110

Ala Phe Val Arg Gly Gly Val Gly Pro Pro Glu His Val His Leu Pro
115 120 125

Val Asp His Arg Leu Glu Leu Gly Ala Val Val Leu Gly Glu Ala Ala
130 135 140

Val Glu Leu Pro Pro Leu Gly Asp Pro Gly Pro Val Gln Gly Asn Gln

145 150 155 160

Val Val Gly Val Arg Ala Ala Pro Leu Glu Ser Ala Gln Glu Pro Leu
165 170 175

Val

<210> 277
<211> 130
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 22480 right: 22869 frame: 2 size(aa): 130

<400> 277

His Arg Arg Pro Asp Cys Pro Ala Pro Val Leu Asp His Arg Val Gly
1 5 10 15

Gly Ala Arg Arg Arg Pro Leu Gln Ala Arg Gln Arg Arg Ala Gln Gly
20 25 30

Asp Asp Arg Pro Glu Gly Gly Arg Ala Pro Glu Ala Leu Arg Arg His
35 40 45

Ala Arg Lys Leu Pro Pro Glu Leu Arg Pro Leu Arg Asp Asp Glu Pro
50 55 60

Pro Gly Trp Ala Leu His Arg Pro Asp Arg Gln Gln Ala Val Arg Gly
65 70 75 80

Arg Ala Arg Gln Pro Ala Asp Arg Gln Arg Ala Pro Gly Ala Asp Ala
85 90 95

Arg Pro Asp Leu Gly Asn Arg Pro Pro Gly Val Pro Gln Arg Gln Ala
100 105 110

Leu Val Pro Arg Arg Gly Gly Ala Gly Asp Gln Arg Glu Thr Gln Gln
115 120 125

Gly Pro
130

<210> 278
<211> 110
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 22581 right: 22910 frame: 1 size(aa): 110

<400> 278

Ser Thr Gly Arg Trp Thr Cys Ser Gly Gly Pro Thr Pro Pro Arg Thr
1 5 10 15

Lys Ala Ala Pro Gly Ala Ser Ser Ser Ala Gly Arg Arg Thr Ala Gly
20 25 30

Met Gly Ser Ser Pro Thr Arg Pro Ala Thr Gly Gly Thr Trp Ser Cys
35 40 45

Pro Ser Thr Ser Gly Ser Thr Ala Ser Ala Trp Ser Arg Cys Glu Thr
50 55 60

Arg Ser Gly Gln Pro Pro Ser Gly Ser Thr Ala Ala Ala Ser Ser Gly
65 70 75 80

Thr Ser Thr Arg Arg Ser Trp Arg Ser Thr Arg Asn Ala Thr Arg Ala
85 90 95

Leu Arg Trp Arg Thr Pro Gly Trp Gly Arg Ser Arg Cys Thr
100 105 110

<210> 279
<211> 112
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 22615 right: 22950 frame: -2 size(aa): 112

<400> 279

Arg Pro Ser Val Ser Arg Ser Arg Ser Ile Glu Leu Phe Arg Cys Ile
1 5 10 15

Trp Ile Val Pro Thr Gln Ala Ser Ser Thr Ser Arg Pro Leu Leu Arg
20 25 30

Phe Ala Leu Ile Ser Ser Ser Ser Ser Ser Arg Tyr Gln Ser Leu Pro
35 40 45

Leu Arg Tyr Ser Arg Arg Ala Val Ala Gln Ile Trp Ser Arg Ile Cys
50 55 60

Ser Arg Arg Ser Leu Ser Ile Arg Trp Leu Thr Gly Thr Thr Thr Tyr
65 70 75 80

Arg Leu Leu Pro Val Gly Ser Val Lys Ser Pro Ser Arg Arg Phe Val
85 90 95

Val Pro Gln Arg Thr Lys Leu Arg Gly Gln Leu Ser Cys Val Ala Ala
100 105 110

<210> 280
<211> 134
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 22918 right: 23319 frame: 2 size(aa): 134

<400> 280

Leu Asp Arg Pro Gly Ala Ala Asp Arg Arg Ala Leu Arg His Gln His
1 5 10 15

Arg Val Ser Leu Pro Gln Asp Arg Ala Arg Gly Gly Thr Pro Trp Pro
20 25 30

Gly Leu Arg Lys Ala Asp Pro Gly His His Ala Glu Pro Gly Leu Gly
35 40 45

Ala Arg Ala Ala Ala Ser Arg Gln Arg Pro Glu Arg Gln Pro Gly Glu
50 55 60

Ala Leu Gly Ala Arg Pro Gly Gly Val Ala Gln Gly Met Val Gly Thr
65 70 75 80

Val Ala Gln Gly Asp Thr Val Arg Ala Thr Val Pro Gly Arg Ala Gly
85 90 95

Gly Val Arg Glu Gly Leu Ala Pro Arg Ile Cys Pro Ser His Gly Pro
100 105 110

Ile Pro Pro Val Val Leu Leu Cys His Pro Pro Pro Arg Arg Glu Arg
115 120 125

Lys Lys Gly Gly Gln Glu
130

<210> 281
<211> 105
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 22973 right: 23287 frame: -3 size(aa): 105

<400> 281

Gly Gly Gly Gly Thr Thr Ala Gln Gln Gly Glu Ser Gly Arg Gly Thr
1 5 10 15

Gly Arg Phe Glu Val Pro Thr Pro Pro Gly Pro Pro Arg His Gly Pro
20 25 30

Ala Gln Trp His Gly Leu Cys Arg Pro Val Pro Pro Phe Arg Pro Ser
35 40 45

Pro Val Leu Pro Pro Leu Asp Gly Arg Pro Thr Pro His Arg Val Ala
50 55 60

Ala Arg Val Ala Gly Glu Thr Gln Pro His Gly Leu Pro Ala Gln Ala
65 70 75 80

Gln His Gly Val Pro Asp Pro Leu Ser Glu Ala Arg Ala Thr Ala Ser
85 90 95

His Leu Gly Leu Asp Leu Glu Val Asp

100 105

<210> 282
<211> 161
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 22978 right: 23460 frame: -2 size(aa): 161

<400> 282

His Gly Gly Arg Gly Pro Val Ser Thr Glu Ser Arg Gly Gly Thr Ala
1 5 10 15

Arg Trp Gly Gly Pro Ala Gly Gly Leu Cys Arg Arg Ala Val Leu Ser
20 25 30

Leu Leu Leu Ser Pro Val Pro Arg Phe Pro Gly Ile Thr Leu Leu Leu
35 40 45

Leu Thr Pro Phe Phe Ser Leu Ser Pro Arg Gly Gly Val Ala Gln Gln
50 55 60

His Asn Arg Gly Asn Arg Ala Val Gly Arg Ala Asp Ser Arg Cys Gln
65 70 75 80

Pro Leu Pro Asp Pro Pro Gly Thr Ala Arg His Ser Gly Thr Asp Cys
85 90 95

Val Ala Leu Cys His Arg Ser Asp His Pro Leu Cys Tyr Pro Pro Trp
100 105 110

Thr Gly Ala Gln Arg Leu Thr Gly Leu Pro Leu Gly Ser Leu Ala Arg
115 120 125

Arg Ser Arg Thr Gly Ser Gln Pro Arg Leu Ser Met Val Ser Arg Ile
130 135 140

Arg Phe Pro Lys Pro Gly Pro Arg Arg Pro Thr Ser Gly Ser Ile Leu
145 150 155 160

Arg

<210> 283
<211> 110
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 22983 right: 23312 frame: -1 size(aa): 110

<400> 283

Pro Pro Phe Phe Leu Ser Leu Leu Gly Gly Gly Trp His Asn Ser Thr
1 5 10 15

Thr Gly Gly Ile Gly Pro Trp Asp Gly Gln Ile Arg Gly Ala Asn Pro
20 25 30

Ser Arg Thr Pro Pro Ala Arg Pro Gly Thr Val Ala Arg Thr Val Ser
35 40 45

Pro Cys Ala Thr Val Pro Thr Ile Pro Cys Ala Thr Pro Pro Gly Arg
50 55 60

Ala Pro Asn Ala Ser Pro Gly Cys Arg Ser Gly Arg Trp Arg Asp Ala
65 70 75 80

Ala Ala Arg Ala Pro Ser Pro Gly Ser Ala Trp Cys Pro Gly Ser Ala
85 90 95

Phe Arg Ser Pro Gly His Gly Val Pro Pro Arg Ala Arg Ser
100 105 110

<210> 284
<211> 60
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 23109 right: 23288 frame: 1 size(aa): 60

<400> 284

Gly Val Gly Arg Pro Ser Arg Gly Gly Ser Thr Gly Asp Gly Arg Asn
1 5 10 15

Gly Gly Thr Gly Arg His Ser Pro Cys His Cys Ala Gly Pro Cys Arg
20 25 30

Gly Gly Pro Gly Gly Val Gly Thr Ser Asn Leu Pro Val Pro Arg Pro
35 40 45

Asp Ser Pro Cys Cys Ala Val Val Pro Pro Pro Pro
50 55 60

<210> 285
<211> 139
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 23138 right: 23554 frame: 3 size(aa): 139

<400> 285

His Arg Gly Trp Ser Glu Arg Trp His Arg Ala Thr Gln Ser Val Pro
1 5 10 15

Leu Cys Arg Ala Val Pro Gly Gly Ser Gly Arg Gly Trp His Leu Glu
20 25 30

Ser Ala Arg Pro Thr Ala Arg Phe Pro Leu Leu Cys Cys Cys Ala Thr
35 40 45

Pro Pro Leu Gly Glu Arg Glu Lys Lys Gly Val Arg Ser Asn Arg Val
50 55 60

Ile Pro Gly Asn Arg Gly Thr Gly Glu Arg Arg Ser Asp Ser Thr Ala
65 70 75 80

Arg Arg His Arg Pro Pro Ala Gly Pro Pro His Arg Ala Val Pro Pro
85 90 95

Arg Asp Ser Val Glu Thr Gly Pro Leu Pro Pro Cys Tyr Thr Gly Asp
100 105 110

Asp Asn Asp Ala Ile Glu Arg Pro Cys Cys Ser Pro Thr Cys Pro Asn
115 120 125

Gly Arg Ala Lys His Pro Arg Thr Cys Leu Thr
130 135

<210> 286
<211> 251
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 23316 right: 24068 frame: -1 size(aa): 251

<400> 286

His Pro Glu Arg Gln Gly Ala Ile Pro Pro Asp Asn Thr Leu Arg Gln
1 5 10 15

Thr Glu Gln Val Pro Gln Asp Glu Pro Leu Gly Val Gly Ala Lys Leu
20 25 30

Gln Glu Leu Gly Pro Asp Arg Pro Leu Pro Gly Asp Leu Asp Gly Leu
35 40 45

Pro Ala Glu His Val Pro Leu Gly Arg Gln Gly Leu Leu Asp Ala Gly
50 55 60

Gln Arg Arg Arg His Leu Val Gly Ile Lys Glu Pro Glu Gly Ala Thr
65 70 75 80

Lys Ala Arg His Arg Gln Phe Gly Val Gly His Leu Gly Gly Gly Gly
85 90 95

Gln Gln Val Phe Asp Arg His Pro Leu Arg Arg Ser Ser Gln Ala Arg
100 105 110

Val Ser Ser Ala Gln Thr Ile Ala Ser Ala Arg Ser Leu Leu Glu Ile
115 120 125

Val Gln Pro Cys Arg Gln Arg Phe Thr Tyr Ser Val Ala Ser Ile Arg
130 135 140

Ser Cys Trp Val Val Pro Gly Arg Arg Ser Leu Lys Lys Arg Asn Ser

145 150 155 160

Arg Leu Leu Ser Val Ser Lys Ser Met Lys Ala Thr Ser Asp Arg Ser
165 170 175

Gly Gly Val Ser Pro Ser His Ser Gly Met Ser Glu Asn Ser Met Val
180 185 190

Ala Arg Leu Arg Arg Cys His Pro Gln Tyr Ser Thr Ala Gly Gly Ala
195 200 205

Arg Ser Arg Leu Ser Pro Gly Val Gly Arg Pro Gly Gly Gly Val Pro
210 215 220

Gln Gly Val Cys Ala Val Val Pro Cys Cys Arg Ser Ser Phe Pro Pro
225 230 235 240

Phe Pro Gly Ser Pro Val Ser Pro Cys Tyr Ser
245 250

<210> 287
<211> 50
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 23323 right: 23472 frame: 2 size(aa): 50

<400> 287

Gln Gly Asp Thr Gly Glu Pro Gly Asn Gly Gly Lys Glu Glu Arg Gln
1 5 10 15

His Gly Thr Thr Ala Gln Thr Pro Cys Gly Thr Pro Pro Pro Gly Arg
20 25 30

Pro Thr Pro Gly Leu Ser Arg Asp Arg Ala Pro Pro Ala Val Leu Tyr
35 40 45

Trp Gly
50

<210> 288
<211> 73
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 23331 right: 23549 frame: 1 size(aa): 73

<400> 288

Tyr Arg Gly Thr Gly Glu Arg Gly Lys Gly Gly Ala Thr Ala Arg His
1 5 10 15

Asp Gly Thr Asp Pro Leu Arg Asp Pro Pro Thr Gly Pro Ser His Pro
20 25 30

Gly Thr Gln Ser Arg Pro Gly Pro Ser Arg Arg Ala Ile Leu Gly Met
35 40 45

Thr Thr Thr Gln Ser Ser Asp His Ala Val Leu Arg His Ala Arg Met
50 55 60

Gly Gly Arg Asn Thr Pro Gly Pro Val
65 70

<210> 289
<211> 156
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 23464 right: 23931 frame: -2 size(aa): 156

<400> 289

Arg Pro Ser Cys Arg Ala Arg Thr Pro Trp Pro Pro Gly Ala Ala Arg
1 5 10 15

Arg Arg Pro Glu Thr Ser Ala Ser Arg Gly Asp Gln Gly Thr Gly Gly
20 25 30

Arg Asn Glu Gly Ser Thr Pro Pro Val Arg Gly Gly Pro Pro Arg Trp
35 40 45

Gly Trp Pro Ala Gly Leu Arg Ser Ser Ser Phe Glu Ala Glu Leu Pro
50 55 60

Gly Pro Arg Phe Phe Gly Pro Asp His Arg Val Gly Gln Val Thr Leu
65 70 75 80

Gly Asp Arg Pro Ala Met Pro Ala Glu Ile His Val Leu Gly Gly Gln
85 90 95

His Pro Val Val Leu Gly Gly Ala Arg Gln Ala Val Ala Lys Glu Ala
100 105 110

Gln Leu Gln Ala Pro Gln Arg Phe Gln Glu His Glu Gly Tyr Val Arg
115 120 125

Gln Val Arg Gly Cys Phe Ala Leu Pro Phe Gly His Val Gly Glu Gln
130 135 140

His Gly Arg Ser Ile Ala Ser Leu Ser Ser Pro Val
145 150 155

<210> 290
<211> 95
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 23476 right: 23760 frame: 2 size(aa): 95

<400> 290

Gln Arg Arg Asn Arg Ala Thr Met Leu Phe Ser Asp Met Pro Glu Trp
1 5 10 15

Glu Gly Glu Thr Pro Pro Asp Leu Ser Asp Val Ala Phe Met Leu Leu
20 25 30

Glu Thr Leu Arg Ser Leu Glu Leu Arg Phe Phe Ser Asp Arg Leu Pro
35 40 45

Gly Thr Thr Gln His Asp Arg Met Leu Ala Thr Glu Tyr Val Asn Leu
50 55 60

Cys Arg His Gly Trp Thr Ile Ser Lys Ser Asp Leu Ala Asp Ala Met
65 70 75 80

Val Trp Ala Glu Glu Thr Arg Ala Trp Glu Leu Arg Leu Lys Gly
85 90 95

<210> 291
<211> 62
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 23663 right: 23848 frame: 3 size(aa): 62

<400> 291

Ile Ser Ala Gly Met Ala Gly Arg Ser Pro Arg Val Thr Trp Pro Thr
1 5 10 15

Arg Trp Ser Gly Pro Lys Lys Arg Gly Pro Gly Ser Ser Ala Ser Lys
20 25 30

Asp Asp Asp Arg Arg Pro Ala Gly His Pro His Arg Gly Gly Pro Pro
35 40 45

Arg Thr Gly Gly Val Glu Pro Ser Leu Arg Pro Pro Val Pro
50 55 60

<210> 292
<211> 109
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 23700 right: 24026 frame: 1 size(aa): 109

<400> 292

Pro Gly Arg Arg Asp Gly Leu Gly Arg Arg Asn Ala Gly Leu Gly Ala
1 5 10 15

Pro Pro Gln Arg Met Thr Ile Glu Asp Leu Leu Ala Thr Pro Thr Glu

```
            20                  25                  30

Val Ala His Pro Glu Leu Ala Val Ser Ser Leu Arg Cys Ala Leu Arg
        35                  40                  45

Phe Leu Asp Pro His Glu Met Pro Thr Ser Leu Ala Cys Val Glu Gln
    50                  55                  60

Pro Leu Ala Ala Lys Gly Tyr Val Leu Gly Arg Lys Ala Val Lys Val
65                  70                  75                  80

Ala Trp Gln Arg Ala Ile Arg Ala Glu Leu Leu Glu Leu Arg Pro His
                85                  90                  95

Ser Lys Arg Leu Val Leu Arg Asn Leu Leu Arg Leu Ser
            100                 105
```

<210> 293
<211> 108
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 23756 right: 24079 frame: -3 size(aa): 108

<400> 293

```
Thr Tyr Tyr Ser Ile Pro Asn Gly Arg Ala Gln Tyr Pro Arg Thr Ile
1               5                   10                  15

Arg Tyr Asp Arg Arg Ser Arg Phe Leu Lys Thr Ser Arg Leu Glu Trp
            20                  25                  30

Gly Arg Ser Ser Arg Ser Ser Ala Arg Ile Ala Leu Cys Gln Ala Thr
        35                  40                  45

Leu Thr Ala Phe Leu Pro Ser Thr Tyr Pro Leu Ala Ala Arg Gly Cys
    50                  55                  60

Ser Thr Gln Ala Arg Asp Val Gly Ile Ser Trp Gly Ser Arg Asn Arg
65                  70                  75                  80

Arg Ala Gln Arg Arg Leu Asp Thr Ala Ser Ser Gly Trp Ala Thr Ser
                85                  90                  95

Val Gly Val Ala Ser Arg Ser Ser Ile Val Ile Leu
            100                 105
```

<210> 294
<211> 80
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 23764 right: 24003 frame: 2 size(aa): 80

<400> 294

```
Arg Ser Lys Thr Cys Trp Pro Pro Pro Pro Arg Trp Pro Thr Pro Asn
1               5                  10                  15

Trp Arg Cys Arg Ala Phe Val Ala Pro Ser Gly Ser Leu Ile Pro Thr
            20                  25                  30

Arg Cys Arg Arg Leu Trp Pro Ala Ser Ser Ser Pro Trp Arg Pro Arg
        35                  40                  45

Gly Thr Cys Ser Ala Gly Arg Pro Ser Arg Ser Pro Gly Lys Gly Arg
    50                  55                  60

Ser Gly Pro Ser Ser Trp Ser Phe Ala Pro Thr Pro Ser Gly Ser Ser
65                  70                  75                  80
```

<210> 295
<211> 194
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 23852 right: 24433 frame: 3 size(aa): 194

<400> 295

```
Ser Pro Arg Asp Ala Asp Val Ser Gly Leu Arg Arg Ala Ala Pro Gly
1               5                  10                  15

Gly Gln Gly Val Arg Ala Arg Gln Glu Gly Arg Gln Gly Arg Leu Ala
            20                  25                  30

Lys Gly Asp Pro Gly Arg Ala Pro Gly Ala Ser Pro Pro Leu Gln Ala
        35                  40                  45

Ala Arg Leu Glu Glu Pro Ala Pro Ser Val Val Ala Tyr Cys Pro Gly
    50                  55                  60

Val Leu Arg Pro Ala Val Arg Asp Ala Ile Ile Arg Ser Glu His Arg
65                  70                  75                  80

Lys Asn Gln Trp Pro Ser Pro Pro Ser Ser Arg Pro Pro Thr Phe Pro
                85                  90                  95

Pro Pro Pro Lys Ala Trp Ser Phe Ala Thr Cys Arg Pro Arg Ser Pro
            100                 105                 110

Ala Ser Pro Ala Pro Arg Cys Pro Ser Arg Pro Pro Arg Cys Asn Arg
        115                 120                 125

Pro Trp Pro Ala Pro Ala Thr Thr Pro Pro Pro Arg Lys Pro Pro Ser
    130                 135                 140

Ser Gly Pro Pro Pro Pro Pro Pro Arg Cys Pro Trp Pro Pro Ile Ala
145                 150                 155                 160

Pro Ala Arg Pro Ser Thr Gly Pro Ser Pro Ser Cys Arg Ser Pro Asp
                165                 170                 175
```

Pro Pro Ala Lys Arg Gly Gly Pro Ser Arg Ala Ser Pro Val Ile Leu
180 185 190

Arg Pro

<210> 296
<211> 172
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 23935 right: 24450 frame: -2 size(aa): 172

<400> 296

His Arg Tyr Leu Ser His Gly Arg Ser Ile Thr Gly Glu Ala Arg Glu
1 5 10 15

Gly Pro Pro Arg Leu Ala Gly Gly Ser Gly Asp Arg Gln Asp Gly Asp
20 25 30

Gly Pro Val Glu Gly Leu Ala Gly Ala Ile Gly Gly Gln Gly His Leu
35 40 45

Gly Gly Gly Gly Gly Gly Pro Glu Leu Gly Gly Phe Leu Gly Gly Gly
50 55 60

Val Val Ala Gly Ala Gly Gln Gly Leu Leu His Leu Gly Gly Arg Leu
65 70 75 80

Gly His Leu Gly Ala Gly Glu Ala Gly Asp Arg Gly Leu Gln Val Ala
85 90 95

Asn Asp Gln Ala Leu Gly Gly Gly Gly Lys Val Gly Gly Leu Asp Glu
100 105 110

Gly Gly Glu Gly His Trp Phe Phe Leu Cys Ser Glu Arg Ile Ile Ala
115 120 125

Ser Arg Thr Ala Gly Arg Asn Thr Pro Gly Gln Tyr Ala Thr Thr Asp
130 135 140

Gly Ala Gly Ser Ser Arg Arg Ala Ala Trp Ser Gly Gly Glu Ala Pro
145 150 155 160

Gly Ala Arg Pro Gly Ser Pro Phe Ala Arg Arg Pro
165 170

<210> 297
<211> 123
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 24007 right: 24375 frame: 2 size(aa): 123

<400> 297

Gly Thr Cys Ser Val Cys Arg Ser Val Leu Ser Gly Gly Ile Ala Pro
1 5 10 15

Cys Arg Ser Gly Cys Tyr Asn Thr Phe Arg Thr Gln Glu Lys Pro Met
20 25 30

Ala Leu Ala Ser Phe Ile Gln Thr Thr Asp Leu Ser Ala Ala Thr Gln
35 40 45

Gly Leu Val Ile Arg His Leu Gln Thr Ala Ile Ser Cys Leu Thr Arg
50 55 60

Thr Glu Met Pro Lys Ser Ala Thr Glu Val Gln Gln Ala Leu Ala Gly
65 70 75 80

Ala Gly Tyr Asp Ala Thr Thr Glu Glu Ala Ala Glu Leu Trp Thr Ala
85 90 95

Ala Ala Thr Ala Gln Val Pro Leu Ala Ser Asn Arg Thr Arg Lys Ala
100 105 110

Leu Tyr Arg Ala Val Ala Val Leu Pro Val Ala
115 120

<210> 298
<211> 60
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 24072 right: 24251 frame: -1 size(aa): 60

<400> 298

Pro Ala Pro Ala Arg Ala Cys Cys Thr Ser Val Ala Asp Leu Gly Ile
1 5 10 15

Ser Val Arg Val Arg Gln Glu Ile Ala Val Cys Arg Trp Arg Met Thr
20 25 30

Arg Pro Trp Val Ala Ala Glu Arg Ser Val Val Trp Met Lys Glu Ala
35 40 45

Arg Ala Ile Gly Phe Ser Cys Val Leu Asn Val Leu
50 55 60

<210> 299
<211> 220
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> >New ORF = left: 24075 right: 24734 frame: 1 size(aa): 220

<400> 299

```
Tyr Val Gln Asn Thr Gly Lys Thr Asn Gly Pro Arg Leu Leu His Pro
1               5                  10                  15

Asp His Arg Pro Phe Arg Arg His Pro Arg Pro Gly His Ser Pro Pro
            20                  25                  30

Ala Asp Arg Asp Leu Leu Pro His Pro His Arg Asp Ala Gln Val Gly
        35                  40                  45

His Arg Gly Ala Thr Gly Pro Gly Arg Arg Arg Leu Arg Arg His His
    50                  55                  60

Arg Gly Ser Arg Arg Ala Leu Asp Arg Arg Arg His Arg Pro Gly Ala
65                  70                  75                  80

Pro Gly Leu Gln Ser His Pro Gln Gly Pro Leu Pro Gly Arg Arg Arg
                85                  90                  95

Pro Ala Gly Arg Leu Thr Arg Arg Pro Asn Glu Gly Gly Pro Pro Gly
            100                 105                 110

Pro Pro Arg Leu Tyr Ser Ala His Asp Ser Gly Ile Asp Val Thr Ala
        115                 120                 125

Gly Pro Gly Gly Ala Pro Gly Arg Ala Thr Ala Arg Arg Arg Ala Glu
    130                 135                 140

Val Arg His Cys Ala Pro Asp Asp Gly Leu Ser Gly Arg Val Arg His
145                 150                 155                 160

Leu Gly Ala Gly Gly Leu Gln Ala Asp Pro Gly Arg Gln Gly Gln Thr
                165                 170                 175

Gly His Arg Pro Arg Cys Gly Gly Pro Val Arg Gly Asp Gly Cys His
            180                 185                 190

Pro Gly Pro Leu Gly Val Gly Leu Cys Trp Gly Asp Ala Glu Arg Gly
        195                 200                 205

Leu Gly Leu Arg Leu Gln Gly Pro Ala Gly His Leu
    210                 215                 220

<210>  300
<211>  106
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  >New ORF = left: 24194 right: 24511 frame: -3 size(aa): 106


<400>  300

Arg Thr Ser Ala Arg Leu Arg Ala Val Ala Leu Pro Gly Ala Pro Pro
1               5                  10                  15

Gly Pro Ala Val Thr Ser Ile Pro Glu Ser Trp Ala Glu Tyr Asn Arg
            20                  25                  30
```

```
Gly Gly Pro Gly Gly Pro Pro Ser Phe Gly Arg Arg Val Arg Arg Pro
        35                  40                  45

Ala Gly Arg Arg Arg Pro Gly Arg Gly Pro Cys Gly Cys Asp Trp Arg
    50                  55                  60

Pro Gly Ala Pro Gly Arg Trp Arg Arg Arg Ser Arg Ala Arg Arg Leu
65                  70                  75                  80

Pro Arg Trp Trp Arg Arg Ser Arg Arg Arg Pro Gly Pro Val Ala Pro
                85                  90                  95

Arg Trp Pro Thr Trp Ala Ser Arg Cys Gly
            100                 105
```

<210> 301
<211> 126
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 24379 right: 24756 frame: 2 size(aa): 126

<400> 301

```
Pro Ala Gly Gln Thr Arg Gly Ala Leu Pro Gly Leu Pro Gly Tyr Thr
1               5                   10                  15

Pro Pro Met Thr Gln Val Ser Met Ser Arg Arg Asp Gln Val Glu His
            20                  25                  30

Leu Val Glu Leu Leu Arg Glu Gly Gly Gln Lys Ser Val Thr Ala His
        35                  40                  45

Leu Met Thr Val Cys Leu Asp Glu Phe Gly Ile Ser Ala Pro Glu Ala
    50                  55                  60

Phe Lys Arg Ile Arg Asp Ala Lys Ala Lys Leu Ala Thr Gly Leu Asp
65                  70                  75                  80

Ala Val Asp Arg Ser Glu Glu Met Ala Ala Thr Leu Ala Arg Trp Glu
                85                  90                  95

Ser Val Phe Ala Gly Ala Met Arg Ser Glu Asp Trp Gly Ser Ala Cys
            100                 105                 110

Lys Ala Leu Gln Gly Ile Cys Asn Met Leu Gly Leu Lys Pro
        115                 120                 125
```

<210> 302
<211> 113
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 24441 right: 24779 frame: -1 size(aa): 113

<400> 302

Leu Ala Gly Ile Gly Pro Arg Gln Gly Phe Asn Pro Ser Met Leu Gln
1 5 10 15

Met Pro Cys Arg Ala Leu Gln Ala Glu Pro Gln Ser Ser Leu Arg Ile
20 25 30

Ala Pro Ala Lys Thr Asp Ser Gln Arg Ala Arg Val Ala Ala Ile Ser
35 40 45

Ser Asp Arg Ser Thr Ala Ser Arg Pro Val Ala Ser Leu Ala Leu Ala
50 55 60

Ser Arg Ile Arg Leu Lys Ala Ser Gly Ala Glu Met Pro Asn Ser Ser
65 70 75 80

Arg Gln Thr Val Ile Arg Cys Ala Val Thr Asp Phe Cys Pro Pro Ser
85 90 95

Arg Ser Ser Ser Thr Arg Cys Ser Thr Trp Ser Arg Arg Asp Ile Asp
100 105 110

Thr

<210> 303
<211> 87
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 24487 right: 24747 frame: -2 size(aa): 87

<400> 303

Pro Gln His Val Thr Asp Ala Leu Gln Gly Leu Ala Gly Gly Ala Pro
1 5 10 15

Val Leu Ala Pro His Arg Pro Ser Lys Asp Arg Leu Pro Ala Gly Gln
20 25 30

Gly Gly Ser His Leu Leu Gly Pro Val His Arg Ile Glu Ala Gly Gly
35 40 45

Gln Phe Gly Leu Gly Val Pro Asp Pro Leu Glu Gly Leu Arg Arg Arg
50 55 60

Asp Ala Glu Leu Val Gln Thr Asp Arg His Gln Val Arg Ser Asp Gly
65 70 75 80

Leu Leu Pro Ala Phe Ala Gln
85

<210> 304
<211> 73
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 24530 right: 24748 frame: 3 size(aa): 73

<400> 304

Arg Ser Val Trp Thr Ser Ser Ala Ser Arg Arg Arg Arg Pro Ser Ser
1 5 10 15

Gly Ser Gly Thr Pro Arg Pro Asn Trp Pro Pro Ala Ser Met Arg Trp
20 25 30

Thr Gly Pro Arg Arg Trp Leu Pro Pro Trp Pro Ala Gly Ser Arg Ser
35 40 45

Leu Leu Gly Arg Cys Gly Ala Arg Thr Gly Ala Pro Pro Ala Arg Pro
50 55 60

Cys Arg Ala Ser Val Thr Cys Trp Gly
65 70

<210> 305
<211> 784
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 24575 right: 26926 frame: -3 size(aa): 784

<400> 305

Glu Gly Pro Ala Ser Gly Val Gly Asp Gly Ala Asp Arg Trp Gly Pro
1 5 10 15

Arg Arg Pro Val Ala Leu Pro Ser Tyr Pro Arg Gly Ser Gly Val Asp
20 25 30

Ser Glu Arg Arg Ile Ala Asp Gln Leu Asp Asp Arg His Gln Ala Gly
35 40 45

Leu Gly Val Asp Glu Leu Pro Ala Val Gly Ile Asp Gln Val Gly Val
50 55 60

Leu Gly Val Val Arg Gly Val Gly Leu Val Gly Asp Pro Glu Asp Pro
65 70 75 80

His Arg Ala Val Pro Val Gly Gly Glu His Leu Leu Glu Ala Glu Asp
85 90 95

Val Leu Pro Val Ala His Pro Glu Val Ala Leu Asp Ala Leu Pro Asp
100 105 110

Gly Ala Val Gly His Gln Val Asp Gly Val Leu Val Pro Ile Gly Gly
115 120 125

Val Asp Arg Arg Gly Glu Gln Val Val His Asp Asp Thr Glu Ala Ser
130 135 140

```
His Val Gly Asn Ala Gly Leu Gly Asp Pro Asp Ala Ala Ala Ala Pro
145                 150                 155                 160

Leu Asp Leu Ala Pro Gly Gly Gln Ala Val Gly Ala Glu Gly Gln His
                165                 170                 175

Pro Asp Gly Leu Gln Val Val Arg Lys Ile Ala Val His Gly Arg Asp
            180                 185                 190

Leu Glu His Gly Ala Pro Leu Thr Glu Pro Gly Leu Thr Pro Glu His
        195                 200                 205

His Arg Arg Ala Gln Glu Val Val Arg Val Ala Arg Ala Gly Ala Gly
    210                 215                 220

Pro Ala Asp Val Asn His Val Gly Gly Gly Gln Gly Ala Pro Glu Gly
225                 230                 235                 240

Ala Leu His Gly Gly Gln Gly Pro Leu Arg Leu Glu Ala Leu Gly Pro
                245                 250                 255

Gly Asp Asp Val Gly Leu Glu Gly Arg His Arg Val Asp Ala Gly Asp
            260                 265                 270

Asp Leu Gly Glu Leu Val Gly Ala Gly Ser Glu Ala Pro Val His Asp
        275                 280                 285

Gly Glu Phe Pro Val Pro Gly Val Glu Leu Leu Gly Gly Gln Val Ala
    290                 295                 300

Phe Ala Ala Gly Ala Pro Gly Ala Val Ala Leu Asp Arg Leu Arg Arg
305                 310                 315                 320

Gly Asp Glu Arg Val Asp Gln Gly Gln Ala Asp Arg Gly Ala Pro Val
                325                 330                 335

Ala Gly Val Glu Pro Phe Val Ala Leu Asp Arg Ala Gly Val Asp Pro
            340                 345                 350

Gly Glu Ala Val Glu His Leu Leu Thr Asp Gly Gly Pro Glu Leu Gly
        355                 360                 365

Ala Val Gly Glu Leu Pro Gln Val Ala Cys Glu Arg Gly Ala Pro Val
    370                 375                 380

Gly Gly Pro Ala Arg Ala Asp Ala Asp Gly Gly Gly Gly Gly Glu Thr
385                 390                 395                 400

Pro Glu Val Ala Gln Val Gly Cys Leu Ser His Gly Gly Leu Ser Gly
                405                 410                 415

Gly Gly Leu Arg Asp Ala Gly Cys Gly Leu His Leu Gly Gly Glu Leu
            420                 425                 430

Trp Val Leu Gly Leu Glu Arg Gln Leu Pro Gly Pro Val Pro Ala Gly
        435                 440                 445

Phe Gly Pro Gly Val Gly Asp Val Leu Cys Cys Ala Ala Thr Ala Thr
    450                 455                 460

Asp Gly Gly Arg Arg Asp Arg Gly Ala His Ala Ser Pro Thr Ala Gly
```

465 470 475 480

Gly Lys Val Val Leu Glu Ser Gly Val Gly Arg Leu Glu Ala Gly His
485 490 495

Val Leu Gly Gln Val Pro Leu Asp Ser Pro Leu Gln Glu Gly Glu Ala
500 505 510

Gly Phe Gly Leu Pro Asp Ala Ala Thr Lys Asp Gly Val Gln Leu Leu
515 520 525

Arg Ser Asp His Ala Gly Arg Met Glu Asp Gly Gln Gly Gly Arg Leu
530 535 540

Glu Pro Phe Ala Leu Leu Ala Phe Leu Leu Gly Leu Asp Leu Cys Leu
545 550 555 560

Glu Arg Gly His Leu Gly Leu Glu Gly Arg His Gly Leu Leu Gly Arg
565 570 575

Leu Pro Lys Gly Leu Val Leu Leu Leu Val Leu Glu Leu Gly Leu Gly
580 585 590

Leu Leu Pro Lys Leu Ala Leu Gln Val Gly Gln Ala Leu Val Glu Leu
595 600 605

Gly Val Gly Leu Ala Gln Ala Leu Leu Val Leu Phe Asp Gln Val Glu
610 615 620

Leu Gly Lys Gly Arg Arg Gln Leu Leu Gly Asp Val Ala Ala Gly Arg
625 630 635 640

His Trp Arg Ser Gly Val Cys Leu Arg Arg Arg Leu Arg His Trp Arg
645 650 655

Gly Arg Gly Leu Arg Cys His Ser Gly Ala Asp Ser Arg Thr Glu Ser
660 665 670

Ala Tyr Glu Ala Ser Pro Trp Pro Tyr Ser Trp Ile Cys Arg Arg Pro
675 680 685

Cys Arg Trp Gly Ala Pro Arg Ala Pro Arg Pro Arg Arg Thr Gly Pro
690 695 700

Gly Arg Gly Pro Arg Gly Arg Ala Pro Arg Phe Asp Trp Gln Ala Ser
705 710 715 720

Gly Leu Val Lys Val Leu Thr Pro Ala Cys Tyr Arg Cys Pro Ala Gly
725 730 735

Pro Cys Arg Arg Ser Pro Ser Pro Arg Ser Ala Ser Pro Gln Gln Arg
740 745 750

Pro Thr Pro Ser Gly Pro Gly Trp Gln Pro Ser Pro Arg Thr Gly Pro
755 760 765

Pro His Arg Gly Arg Trp Pro Val Trp Pro Trp Arg Pro Gly Ser Ala
770 775 780

<210> 306
<211> 316

<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 24751 right: 25698 frame: -2 size(aa): 316

<400> 306

Ala Met Val Ala Ser Gln Val Val Val Tyr Val Thr Pro Ala Ala Ala
1 5 10 15

Phe Ile Trp Ala Ala Ser Ser Gly Phe Leu Ala Trp Ser Ala Ser Cys
20 25 30

Pro Val Arg Phe Gln Pro Ala Leu Val Gln Gly Leu Glu Thr Ser Ser
35 40 45

Ala Ala Leu Pro Pro Pro Pro Thr Gly Ala Ala Glu Thr Gly Val Pro
50 55 60

Met Pro Arg Pro Pro Leu Gly Ala Lys Trp Cys Ser Asn Pro Glu Leu
65 70 75 80

Gly Ala Leu Arg Leu Ala Thr Tyr Trp Ala Arg Ser Arg Ser Thr Pro
85 90 95

Pro Cys Arg Lys Ala Arg Pro Asp Ser Val Cys Arg Met Pro Pro Pro
100 105 110

Arg Met Val Tyr Ser Cys Ser Gly Ala Thr Thr Pro Ala Glu Trp Lys
115 120 125

Thr Ala Arg Ala Asp Asp Leu Ser Arg Ser Arg Cys Trp Pro Ser Phe
130 135 140

Ser Val Ser Ile Cys Val Leu Ser Val Ala Thr Ser Val Ser Arg Val
145 150 155 160

Ala Thr Val Cys Leu Ala Ala Ser Gln Arg Ala Leu Tyr Cys Cys Trp
165 170 175

Ser Ser Ser Leu Ala Ser Val Cys Ser Arg Ser Trp Arg Ser Arg Ser
180 185 190

Val Arg Arg Trp Leu Ser Ser Val Leu Val Trp Pro Arg Arg Cys Leu
195 200 205

Ser Cys Leu Thr Arg Ser Ser Leu Ala Arg Ala Ala Asp Ser Cys Trp
210 215 220

Ala Thr Ser Pro Leu Gly Ala Thr Gly Ala Ala Gly Ser Ala Ser Gly
225 230 235 240

Val Gly Ser Ala Thr Gly Gly Val Gly Val Cys Ala Ala Ile Arg Gly
245 250 255

Leu Ile Arg Gly Arg Ser Gln Arg Thr Arg Leu Arg Leu Gly Leu Thr
260 265 270

```
Leu Gly Phe Ala Gly Gly Leu Ala Gly Gly Gly Arg Leu Gly Arg His
        275                 280                 285

Val Leu Gly Val Pro Ala Gln Val Gly Ala Pro Gly Ala Gly His Pro
    290                 295                 300

Asp Leu Ile Gly Arg His Arg Ala Ser Ser Arg Phe
305                 310                 315

<210>  307
<211>  53
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 24752 right: 24910 frame: 3 size(aa): 53


<400>  307

Asn Leu Asp Glu Ala Arg Cys Leu Pro Ile Lys Ser Gly Cys Pro Ala
1               5                   10                  15

Pro Gly Ala Pro Thr Trp Ala Gly Thr Pro Arg Thr Trp Arg Pro Arg
            20                  25                  30

Arg Pro Pro Pro Ala Arg Pro Pro Ala Asn Pro Arg Val Arg Pro Arg
        35                  40                  45

Arg Ser Leu Val Arg
    50

<210>  308
<211>  74
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 24760 right: 24981 frame: 2 size(aa): 74


<400>  308

Arg Gly Pro Met Pro Ala Asn Gln Ile Trp Val Pro Gly Pro Trp Gly
1               5                   10                  15

Pro Asp Leu Gly Arg Tyr Ala Glu Asp Val Ala Pro Glu Ala Pro Pro
            20                  25                  30

Thr Gly Lys Ala Ala Gly Lys Ser Lys Ser Lys Ala Lys Ala Lys Pro
        35                  40                  45

Arg Thr Leu Thr Pro Ser Ala Asn Gln Pro Pro Asn Gly Ser Ala Asn
    50                  55                  60

Pro Asp Pro Ala Ser Gly Gly Ala Asp Ala
65                  70

<210>  309
```

<211> 77
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 24888 right: 25118 frame: 1 size(aa): 77

<400> 309

Gly Gln Gly Glu Ala Ser Tyr Ala Asp Ser Val Arg Glu Ser Ala Pro
1 5 10 15

Glu Trp Gln Arg Lys Pro Arg Pro Arg Gln Trp Arg Ser Arg Arg Leu
20 25 30

Arg Gln Thr Pro Leu Arg Gln Trp Arg Pro Ala Ala Thr Ser Pro Ser
35 40 45

Ser Cys Leu Arg Pro Leu Pro Ser Ser Thr Trp Ser Asn Arg Thr Ser
50 55 60

Ser Ala Trp Ala Arg Pro Thr Pro Ser Ser Thr Asn Ala
65 70 75

<210> 310
<211> 252
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 24914 right: 25669 frame: 3 size(aa): 252

<400> 310

Leu Arg Pro Arg Ile Ser Pro Arg Met Ala Ala Gln Thr Pro Thr Pro
1 5 10 15

Pro Val Ala Glu Pro Thr Pro Glu Ala Asp Pro Ala Ala Pro Val Ala
20 25 30

Pro Ser Gly Asp Val Ala Gln Gln Leu Ser Ala Ala Leu Ala Lys Leu
35 40 45

Asp Leu Val Lys Gln Asp Lys Gln Arg Leu Gly Gln Thr Asn Thr Glu
50 55 60

Leu Asn Gln Arg Leu Thr Asp Leu Glu Arg Gln Leu Arg Glu Gln Thr
65 70 75 80

Glu Ala Lys Leu Glu Asp Gln Gln Gln Tyr Lys Ala Leu Trp Glu Ala
85 90 95

Ala Lys Gln Thr Val Ala Thr Leu Glu Thr Glu Val Ala Thr Leu Lys
100 105 110

Thr Gln Ile Glu Thr Glu Lys Glu Gly Gln Gln Arg Glu Arg Leu Lys
115 120 125

Ser Ser Ala Leu Ala Val Phe His Ser Ala Gly Val Val Ala Pro Glu
130 135 140

Gln Leu Tyr Thr Ile Leu Gly Gly Gly Ile Arg Gln Thr Glu Ser Gly
145 150 155 160

Leu Ala Phe Leu Gln Gly Gly Val Glu Arg Asp Leu Ala Gln Tyr Val
165 170 175

Ala Ser Leu Lys Ala Pro Asn Ser Gly Phe Glu His His Phe Ala Pro
180 185 190

Ser Gly Gly Arg Gly Met Gly Thr Pro Val Ser Ala Ala Pro Val Gly
195 200 205

Gly Gly Gly Ser Ala Ala Glu Asp Val Ser Asn Pro Trp Thr Lys Ala
210 215 220

Gly Trp Asn Arg Thr Gly Gln Leu Ala Leu Gln Ala Lys Asn Pro Glu
225 230 235 240

Leu Ala Ala Gln Met Lys Ala Ala Ala Gly Val Thr
245 250

<210> 311
<211> 287
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 24985 right: 25845 frame: 2 size(aa): 287

<400> 311

Gly Arg Pro Arg Cys Ala Ser Gly Ala Gln Arg Arg Arg Arg Pro Ala
1 5 10 15

Ala Val Cys Gly Pro Cys Gln Ala Arg Pro Gly Gln Thr Gly Gln Ala
20 25 30

Ala Pro Gly Pro Asp Gln His Arg Ala Gln Pro Thr Pro Asp Arg Pro
35 40 45

Gly Ala Pro Ala Ser Gly Ala Asp Arg Gly Gln Ala Arg Gly Pro Ala
50 55 60

Ala Val Gln Gly Pro Leu Gly Gly Gly Gln Ala Asp Arg Gly Asp Pro
65 70 75 80

Arg Asp Arg Gly Gly His Ala Gln Asp Thr Asp Arg Asp Arg Glu Gly
85 90 95

Arg Pro Thr Ala Arg Thr Ala Gln Val Val Arg Pro Gly Arg Leu Pro
100 105 110

Phe Cys Arg Arg Gly Arg Ser Gly Ala Ala Val His His Pro Trp Trp
115 120 125

```
Arg His Pro Ala Asp Arg Ile Arg Pro Arg Leu Pro Ala Gly Gly Ser
    130                 135                 140

Arg Ala Gly Pro Gly Pro Val Arg Gly Gln Pro Gln Gly Ala Gln Leu
145                 150                 155                 160

Arg Ile Arg Ala Pro Leu Cys Pro Gln Arg Trp Ala Arg His Gly His
                165                 170                 175

Pro Gly Leu Cys Gly Pro Arg Arg Trp Arg Trp Gln Arg Ser Arg Gly
            180                 185                 190

Arg Leu Gln Pro Leu Asp Gln Ser Arg Leu Glu Pro Asp Arg Ala Thr
        195                 200                 205

Gly Ala Pro Gly Gln Glu Pro Arg Ala Arg Arg Pro Asp Glu Gly Arg
    210                 215                 220

Ser Arg Arg His Val Asn His His Leu Arg Gly His His Gly Ser Ser
225                 230                 235                 240

Ser Pro Pro Gly Gln Leu Arg Gly Phe His His Pro His Pro Arg Arg
                245                 250                 255

His Arg Leu Glu Arg Val Pro Gln Leu Gly His His Val Arg Arg Arg
            260                 265                 270

Pro Gly Gly Ala Arg Gln Pro Pro Arg Val Arg Gly Arg His Pro
        275                 280                 285

<210>  312
<211>  175
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 25122 right: 25646 frame: 1 size(aa): 175


<400>  312

Pro Thr Trp Ser Ala Ser Phe Gly Ser Arg Pro Arg Pro Ser Ser Arg
1               5                   10                  15

Thr Ser Ser Ser Thr Arg Pro Phe Gly Arg Arg Pro Ser Arg Pro Trp
            20                  25                  30

Arg Pro Ser Arg Pro Arg Trp Pro Arg Ser Arg His Arg Ser Arg Pro
        35                  40                  45

Arg Arg Lys Ala Asn Ser Ala Asn Gly Ser Ser Arg Pro Pro Trp Pro
    50                  55                  60

Ser Ser Ile Leu Pro Ala Trp Ser Leu Arg Ser Ser Cys Thr Pro Ser
65                  70                  75                  80

Leu Val Ala Ala Ser Gly Arg Pro Asn Pro Ala Ser Pro Ser Cys Arg
                85                  90                  95

Gly Glu Ser Ser Gly Thr Trp Pro Ser Thr Trp Pro Ala Ser Arg Arg
```

100 105 110

Pro Thr Pro Asp Ser Ser Thr Thr Leu Pro Pro Ala Val Gly Glu Ala
115 120 125

Trp Ala Pro Arg Ser Leu Arg Pro Pro Ser Val Ala Val Ala Ala Gln
130 135 140

Gln Arg Thr Ser Pro Thr Pro Gly Pro Lys Pro Ala Gly Thr Gly Pro
145 150 155 160

Gly Asn Trp Arg Ser Arg Pro Arg Thr Gln Ser Ser Pro Pro Arg
165 170 175

<210> 313
<211> 51
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 25296 right: 25448 frame: -1 size(aa): 51

<400> 313

Gly Trp Pro Arg Thr Gly Pro Gly Pro Ala Arg Leu Pro Pro Ala Gly
1 5 10 15

Arg Arg Gly Arg Ile Arg Ser Ala Gly Cys Arg His Gln Gly Trp Cys
20 25 30

Thr Ala Ala Pro Glu Arg Pro Arg Arg Gln Asn Gly Arg Arg Pro Gly
35 40 45

Arg Thr Thr
50

<210> 314
<211> 71
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 25452 right: 25664 frame: -1 size(aa): 71

<400> 314

Arg Arg Leu Arg Pro Ser Ser Gly Arg Arg Ala Leu Gly Ser Trp Pro
1 5 10 15

Gly Ala Pro Val Ala Arg Ser Gly Ser Ser Arg Leu Trp Ser Arg Gly
20 25 30

Trp Arg Arg Pro Leu Leu Arg Cys His Arg His Arg Arg Gly Pro Gln
35 40 45

Arg Pro Gly Cys Pro Cys Leu Ala His Arg Trp Gly Gln Ser Gly Ala
50 55 60

```
Arg Ile Arg Ser Trp Ala Pro
65                  70

<210>  315
<211>  99
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 25650 right: 25946 frame: 1 size(aa): 99


<400>  315

Arg Pro Gln Pro Ala Ser Arg Lys Pro Pro Pro Glu Arg Pro Pro Trp
1               5                   10                  15

Leu Lys Gln Pro Thr Trp Ala Thr Ser Gly Val Ser Pro Pro Pro Pro
            20                  25                  30

Pro Ser Ala Ser Ala Arg Ala Gly Pro Pro Thr Gly Ala Pro Arg Ser
        35                  40                  45

Gln Ala Thr Trp Gly Ser Ser Pro Thr Ala Pro Ser Ser Gly Pro Pro
    50                  55                  60

Ser Val Arg Arg Cys Ser Thr Ala Ser Pro Gly Ser Thr Pro Ala Arg
65                  70                  75                  80

Ser Ser Ala Thr Asn Gly Ser Thr Pro Ala Thr Gly Ala Pro Arg Ser
                85                  90                  95

Ala Cys Pro


<210>  316
<211>  385
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 25685 right: 26839 frame: 3 size(aa): 385


<400>  316

Glu Ala Thr Met Ala Gln Ala Ala His Leu Gly Asn Phe Gly Gly Phe
1               5                   10                  15

Thr Thr Pro Thr Pro Val Gly Ile Gly Ser Ser Gly Ser Pro Asn Trp
            20                  25                  30

Gly Thr Thr Phe Ala Gly Asp Leu Gly Glu Leu Ala Asn Arg Pro Glu
        35                  40                  45

Phe Gly Ala Ala Ile Arg Glu Glu Val Phe Asn Ser Phe Ala Trp Ile
    50                  55                  60
```

```
Asn Ser Gly Ala Ile Gln Arg Asp Glu Arg Leu Asp Ala Arg Asn Arg
65                  70                  75                  80

Gly Ala Ser Ile Ser Leu Pro Leu Ile Asn Pro Phe Ile Pro Thr Ser
                85                  90                  95

Glu Thr Ile Lys Ser Asn Ser Thr Trp Gly Ala Ser Gly Lys Gly Tyr
            100                 105                 110

Leu Thr Pro Gln Lys Leu Asn Ala Gly Asp Trp Lys Leu Pro Ile Val
        115                 120                 125

His Arg Gly Phe Ala Ala Gly Ala Asp Glu Leu Ser Glu Ile Ile Thr
    130                 135                 140

Gly Ile Asp Pro Met Ala Ala Leu Glu Ser Tyr Ile Val Ala Gly Ala
145                 150                 155                 160

Gln Arg Leu Glu Thr Gln Arg Ala Leu Ala Thr Met Glu Gly Ala Leu
                165                 170                 175

Arg Gly Pro Leu Ser Thr Thr His Val Val Asp Ile Ser Arg Thr Gly
            180                 185                 190

Thr Gly Pro Ser Asp Ala Asp Asn Phe Leu Ser Ser Ser Val Met Leu
        195                 200                 205

Arg Gly Lys Ala Arg Leu Gly Glu Arg Gly Ser Met Leu Gln Ile Ala
    210                 215                 220

Ala Met His Ser Asp Leu Ala His Tyr Leu Glu Ser Val Gly Met Leu
225                 230                 235                 240

Thr Phe Ser Ser Asp Ser Leu Thr Ala Gly Gly Glu Ile Lys Trp Gly
                245                 250                 255

Gly Gly Gly Ile Gly Val Thr Gln Ala Arg Val Ala Asp Met Ala Gly
            260                 265                 270

Phe Arg Val Ile Val Asp Asp Leu Leu Ala Pro Thr Ile Asp Ala Thr
        275                 280                 285

Asn Gly Asp Lys Tyr Pro Val Tyr Leu Met Ala Asn Gly Ala Ile Arg
    290                 295                 300

Gln Gly Ile Gln Arg Asp Phe Arg Val Arg Tyr Gly Glu Asn Ile Leu
305                 310                 315                 320

Ser Phe Gln Glu Val Leu Ala Ala Asp Trp His Gly Ser Met Gly Val
                325                 330                 335

Leu Gly Ile Ser Tyr Glu Ser Asn Ala Pro Asp Asn Pro Glu Asp Ala
            340                 345                 350

Asp Leu Ile Asp Pro Asp Ser Trp Glu Leu Val Tyr Thr Glu Pro Arg
        355                 360                 365

Leu Val Pro Ile Val Lys Leu Val Cys Asn Ser Pro Phe Ala Val Asn
    370                 375                 380

Pro
```

385

<210> 317
<211> 105
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 25702 right: 26016 frame: -2 size(aa): 105

<400> 317

Pro Leu Pro Leu Ala Pro Gln Val Leu Leu Leu Leu Ile Val Ser Asp
1 5 10 15

Val Gly Met Asn Gly Leu Ile Arg Gly Arg Leu Ile Glu Ala Pro Arg
20 25 30

Leu Arg Ala Ser Ser Arg Ser Ser Arg Trp Ile Ala Pro Glu Leu Ile
35 40 45

Gln Ala Lys Leu Leu Asn Thr Ser Ser Arg Met Ala Ala Pro Asn Ser
50 55 60

Gly Arg Leu Ala Ser Ser Pro Arg Ser Pro Ala Asn Val Val Pro Gln
65 70 75 80

Leu Gly Asp Pro Leu Glu Pro Met Pro Thr Gly Val Gly Val Val Lys
85 90 95

Pro Pro Lys Leu Pro Arg Trp Ala Ala
100 105

<210> 318
<211> 131
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 25849 right: 26241 frame: 2 size(aa): 131

<400> 318

Gly Gly Val Gln Gln Leu Arg Leu Asp Gln Leu Arg Arg Asp Pro Ala
1 5 10 15

Arg Arg Thr Ala Arg Arg Pro Gln Pro Gly Arg Leu Asp Gln Pro Ala
20 25 30

Pro Asp Gln Pro Val His Pro His Val Gly Asp Asp Gln Glu Gln Gln
35 40 45

His Leu Gly Arg Gln Arg Gln Arg Leu Pro Asp Pro Pro Glu Ala Gln
50 55 60

Arg Arg Gly Leu Glu Thr Pro His Arg Ala Pro Gly Leu Arg Cys Arg
65 70 75 80

Arg Arg Arg Ala Leu Arg Asp His His Arg His Arg Pro Asp Gly Gly
85 90 95

Pro Arg Val Leu His Arg Arg Arg Gly Pro Ala Pro Arg Asp Ala Thr
100 105 110

Gly Pro Gly His His Gly Gly Arg Pro Pro Gly Pro Pro Val His His
115 120 125

Pro Arg Gly
130

<210> 319
<211> 88
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 26025 right: 26288 frame: 1 size(aa): 88

<400> 319

Pro Pro Arg Ser Ser Thr Pro Gly Thr Gly Asn Ser Pro Ser Cys Thr
1 5 10 15

Gly Ala Ser Leu Pro Ala Pro Thr Ser Ser Pro Arg Ser Ser Pro Ala
20 25 30

Ser Thr Arg Trp Arg Pro Ser Ser Pro Thr Ser Ser Pro Gly Pro Ser
35 40 45

Ala Ser Arg Arg Asn Gly Pro Trp Pro Pro Trp Arg Ala Pro Ser Gly
50 55 60

Ala Pro Cys Pro Pro Pro Thr Trp Leu Thr Ser Ala Gly Pro Ala Pro
65 70 75 80

Ala Arg Ala Thr Arg Thr Thr Ser
85

<210> 320
<211> 77
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 26149 right: 26379 frame: -2 size(aa): 77

<400> 320

Cys Ala Arg Ser Leu Cys Met Ala Ala Ile Trp Ser Met Glu Pro Arg
1 5 10 15

Ser Pro Ser Arg Ala Leu Pro Arg Ser Ile Thr Glu Glu Leu Arg Lys
20 25 30

```
Leu Ser Ala Ser Leu Gly Pro Val Pro Val Arg Leu Met Ser Thr Thr
        35                  40                  45

Trp Val Val Asp Arg Gly Pro Arg Arg Ala Pro Ser Met Val Ala Arg
    50                  55                  60

Ala Arg Cys Val Ser Arg Arg Trp Ala Pro Ala Thr Met
65                  70                  75

<210>  321
<211>  53
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 26250 right: 26408 frame: -1 size(aa): 53


<400>  321

Arg Ser Ala Ser Arg Arg Thr Pro Gly Ser Ala Gln Asp Arg Cys Ala
1               5                   10                  15

Trp Pro Arg Ser Gly Ala Trp Ser Pro Ala His Arg Ala Gly Pro Tyr
            20                  25                  30

Pro Gly Ala Ser Pro Lys Ser Ser Gly Ser Cys Pro Arg Arg Ser Gly
        35                  40                  45

Arg Cys Arg Ser Gly
    50

<210>  322
<211>  244
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 26332 right: 27063 frame: 2 size(aa): 244


<400>  322

Ala Gly Leu His Ala Pro Asp Arg Gly His Ala Gln Arg Ser Cys Ala
1               5                   10                  15

Leu Pro Gly Val Arg Arg Asp Ala Asp Leu Gln Leu Arg Gln Pro Asp
            20                  25                  30

Arg Arg Gly Arg Asp Gln Val Gly Arg Arg Arg His Arg Gly His Pro
        35                  40                  45

Gly Pro Arg Cys Arg His Gly Trp Leu Pro Cys His Arg Gly Arg Pro
    50                  55                  60

Ala Arg Pro Asp Asp Arg Arg His Gln Trp Gly Gln Val Pro Arg Leu
65                  70                  75                  80

Pro Asp Gly Gln Arg Arg His Pro Ala Gly His Pro Ala Arg Leu Pro
```

85 90 95

Gly Ala Leu Arg Gly Glu His Pro Gln Leu Pro Gly Gly Ala Arg Arg
100 105 110

Arg Leu Ala Arg Leu Asp Gly Gly Pro Arg Asp Leu Leu Arg Val Gln
115 120 125

Arg Pro Gly Gln Pro Arg Gly Arg Arg Pro Asp Arg Ser Arg Gln Leu
130 135 140

Gly Ala Arg Leu His Arg Ala Pro Pro Gly Ala Asp Arg Gln Ala Gly
145 150 155 160

Leu Gln Phe Ala Val Arg Cys Gln Pro Leu Ser Pro Trp Gly Arg Met
165 170 175

Ala Arg Pro Arg Asp Ala Val Ala Pro Asn Gly Arg Pro Arg Leu Pro
180 185 190

Pro Arg Arg Arg Gly Leu Pro Met Leu Gly Arg Cys Cys Ala Pro Arg
195 200 205

Trp Ser Ser Ser Pro Leu Thr Trp Pro Thr Pro Thr Pro Thr Trp Leu
210 215 220

Trp Ala Pro Gly Ala Pro Ser Gly Trp Pro Ser Gly Thr Lys Pro Pro
225 230 235 240

Gly Arg Trp Pro

<210> 323
<211> 62
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 26383 right: 26568 frame: -2 size(aa): 62

<400> 323

Thr Gly Tyr Leu Ser Pro Leu Val Ala Ser Ile Val Gly Ala Ser Arg
1 5 10 15

Ser Ser Thr Met Thr Arg Lys Pro Ala Met Ser Ala Thr Arg Ala Trp
20 25 30

Val Thr Pro Met Pro Pro Pro Pro His Leu Ile Ser Pro Pro Ala Val
35 40 45

Arg Leu Ser Glu Leu Lys Val Ser Ile Pro Thr Asp Ser Arg
50 55 60

<210> 324
<211> 56
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 26577 right: 26744 frame: 1 size(aa): 56

<400> 324

Trp Pro Thr Ala Pro Ser Gly Arg Ala Ser Ser Ala Thr Ser Gly Cys
1 5 10 15

Ala Thr Gly Arg Thr Ser Ser Ala Ser Arg Arg Cys Ser Pro Pro Thr
20 25 30

Gly Thr Ala Arg Trp Gly Ser Ser Gly Ser Pro Thr Ser Pro Thr Pro
35 40 45

Arg Thr Thr Pro Arg Thr Pro Thr
50 55

<210> 325
<211> 52
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 26646 right: 26801 frame: -1 size(aa): 52

<400> 325

Arg Ser Ala Pro Gly Gly Ala Arg Cys Arg Arg Ala Pro Ser Cys Arg
1 5 10 15

Asp Arg Ser Gly Arg Arg Pro Arg Gly Cys Pro Gly Arg Trp Thr Arg
20 25 30

Arg Arg Ser Arg Gly Pro Pro Ser Ser Arg Ala Ser Arg Arg Arg Ala
35 40 45

Pro Pro Gly Ser
50

<210> 326
<211> 428
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 26776 right: 28059 frame: -2 size(aa): 428

<400> 326

Gly Arg Leu Leu Val Arg Cys Thr Ser Ser Pro Ala Thr Arg Arg Arg
1 5 10 15

Ala Ser Ala Ser Asp Cys Gly Val Leu Ala Pro Ser Gly Ala Thr Ser
20 25 30

Leu Glu Gly Arg Leu Leu Leu Ala Asn Gln Glu Glu Arg Asn Arg Pro
35 40 45

Val Ser Thr Gly Leu Thr Ala Ala Leu Pro Arg Ser Ala Trp Ala Trp
50 55 60

Thr Thr Val Arg Arg Ser Trp Ala Pro Arg Ala Ser Asp Arg Cys Phe
65 70 75 80

Leu Ser Ala Ser Gly Ser Leu Asn Val Gly Ile Leu Val Leu Thr Asn
85 90 95

Glu Leu Ala Gly Asp Gln Ala Leu Ala Gly Val Gly Gly Val Gly Phe
100 105 110

Cys Asp Ala Pro Asp Pro Ala Val Val Gly Asp Gly Val Pro Gly Gly
115 120 125

Trp Phe Val Arg Glu Ala Pro Gly Pro Met Val Asp Pro Glu Pro His
130 135 140

Leu Pro Gly Leu Leu Gly Ala Ala Pro Leu Ala Leu Ala Ile Ala Gln
145 150 155 160

His Pro Gly Ile Asp Arg Val Leu Asp Asp Val Pro Gly Glu His Pro
165 170 175

Arg Gly Arg Val Val Gly Leu Gly Leu Gly Pro Pro Val Gln Asp Arg
180 185 190

Arg Gly Glu Gly Pro Val Asp Gln Leu Gly Arg Asp Arg Gln Glu Gly
195 200 205

Gly Gly Asn Val His Thr Ala Arg Leu Leu Ser Cys Gly Pro Gly Ala
210 215 220

Gly Leu Trp Thr Cys Ser Ala Ala Ser Ile Pro Gly Ser Ser Arg Ser
225 230 235 240

Arg Gly Arg Pro Ala Ala Gly Gly Gly Arg Phe Gly Arg Ser Gly Ser
245 250 255

Ser Thr Arg Pro Ser Arg Arg Thr Thr Ala Gly Gly Arg Pro Gly Pro
260 265 270

Asp Ser Trp Pro Arg Ala Arg Pro Gly Cys Arg Arg Gly Pro Arg Leu
275 280 285

Gln Asn Arg Gly Val Gly Pro Gly Pro Pro Arg Arg Leu Pro Ser Pro
290 295 300

Ser Thr Arg Arg Met Ala Trp Arg Arg Arg Pro Ser Gly Gly Pro Gly
305 310 315 320

Ser Ala Ala Ser Gly Ala Ser Gly Thr Pro Arg Ser Gly Pro Pro Ala
325 330 335

Gly Arg Leu Arg Pro Arg Arg Pro Ala Arg Gly Gly Pro Gly Arg Pro
340 345 350

Glu Pro Cys Arg Arg Arg Arg Arg Pro Gly Gln Arg Gly Gly Ala Pro

355 360 365

Ser Gly Gly Thr Ala Pro Pro Gln His Arg Lys Ala Pro Pro Pro Gly
370 375 380

Trp Glu Thr Gly Pro Thr Val Gly Gly His Gly Val Pro Trp Pro Cys
385 390 395 400

His Pro Thr Pro Gly Ala Gln Gly Leu Thr Ala Asn Gly Glu Leu Gln
405 410 415

Thr Ser Leu Thr Ile Gly Thr Arg Arg Gly Ser Val
420 425

<210> 327
<211> 115
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 26835 right: 27179 frame: -1 size(aa): 115

<400> 327

Gly Gln Gly His Leu Gly Val Cys Arg His Pro Ala Leu Val Glu Trp
1 5 10 15

Pro Gly Ala Gly Val Arg Arg Ala Val Pro Asp Arg Gln Arg Leu Glu
20 25 30

Pro Ala Glu Arg Leu Gly Gln Gly His Leu Pro Gly Gly Phe Val Pro
35 40 45

Asp Gly Gln Pro Glu Gly Ala Pro Gly Ala Gln Ser His Val Gly Val
50 55 60

Gly Val Gly Gln Val Asn Gly Glu Glu Leu His Arg Gly Ala Gln His
65 70 75 80

Arg Pro Asn Ile Gly Arg Pro Arg Leu Arg Gly Gly Arg Arg Gly Arg
85 90 95

Pro Leu Gly Ala Thr Ala Ser Arg Gly Leu Ala Ile Leu Pro Gln Gly
100 105 110

Leu Arg Gly
115

<210> 328
<211> 183
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 26856 right: 27404 frame: 1 size(aa): 183

<400> 328

```
Asp Gly Lys Ala Thr Gly Arg Arg Gly Pro Gln Arg Ser Ala Pro Ser
1               5                  10                  15

Pro Thr Pro Glu Ala Gly Pro Ser Tyr Val Gly Ala Val Leu Cys Pro
            20                  25                  30

Pro Met Glu Leu Leu Pro Val Asp Leu Ala Asp Ala Asp Ala Tyr Met
        35                  40                  45

Ala Leu Gly Ala Arg Gly Pro Leu Trp Leu Ala Val Gly Asp Glu Ala
    50                  55                  60

Ala Arg Gln Val Ala Leu Thr Glu Ala Phe Arg Trp Leu Gln Thr Leu
65                  70                  75                  80

Pro Ile Arg Asp Arg Pro Thr Asp Ala Cys Ala Arg Pro Phe Asp Glu
                85                  90                  95

Cys Trp Val Thr Ala Asn Ala Glu Val Ala Leu Ala Leu His Arg Asp
            100                 105                 110

Ser Ala Ala Val Val Pro Ala Gly Ser Gln Ala Gly Pro Val Ala Lys
        115                 120                 125

Ser Gln Ala Leu Gly Ala Leu Gln Gln Ser Phe Phe Ser Met Ala Glu
    130                 135                 140

Trp Lys Thr Arg Tyr Asp Gln Asn Asp His Pro Leu Leu Arg Ala Phe
145                 150                 155                 160

Pro Trp Ile Tyr Ser Ile Leu Gly Cys Trp Leu Pro Ser Lys Ser Lys
                165                 170                 175

Val Leu His Arg Val Arg Ser
            180
```

<210> 329
<211> 162
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 26975 right: 27460 frame: 3 size(aa): 162

<400> 329

```
Pro Gly Arg Arg Arg Arg Leu His Gly Ser Gly Arg Pro Gly Pro Pro
1               5                  10                  15

Leu Ala Gly Arg Arg Gly Arg Ser Arg Pro Ala Gly Gly Pro Asp Arg
            20                  25                  30

Gly Val Pro Leu Ala Pro Asp Ala Ala Asp Pro Gly Pro Pro Asp Gly
        35                  40                  45

Arg Leu Arg Gln Ala Ile Arg Arg Val Leu Gly Asp Gly Lys Arg Arg
    50                  55                  60
```

```
Gly Gly Pro Gly Pro Thr Pro Arg Phe Cys Ser Arg Gly Pro Arg Arg
65                  70                  75                  80

Gln Pro Gly Arg Ala Arg Gly Gln Glu Ser Gly Pro Gly Arg Pro Pro
                85                  90                  95

Ala Val Val Leu Leu Asp Gly Arg Val Glu Asp Pro Leu Arg Pro Lys
            100                 105                 110

Arg Pro Pro Pro Ala Ala Gly Leu Pro Leu Asp Leu Leu Asp Pro Gly
        115                 120                 125

Met Leu Ala Ala Glu Gln Val Gln Ser Pro Ala Pro Gly Pro Gln Leu
    130                 135                 140

Ser Ser Leu Ala Val Trp Thr Leu Pro Pro Pro Ser Cys Leu Ser Arg
145                 150                 155                 160

Pro Ser
```

<210> 330
<211> 82
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 26996 right: 27241 frame: -3 size(aa): 82

<400> 330

```
Leu Leu Ala Thr Gly Pro Ala Trp Leu Pro Ala Gly Thr Thr Ala Ala
1               5                   10                  15

Glu Ser Arg Cys Arg Ala Arg Ala Thr Ser Ala Phe Ala Val Thr Gln
            20                  25                  30

His Ser Ser Asn Gly Leu Ala Gln Ala Ser Val Gly Arg Ser Arg Ile
        35                  40                  45

Gly Ser Val Trp Ser Gln Arg Asn Ala Ser Val Arg Ala Thr Cys Arg
    50                  55                  60

Ala Ala Ser Ser Pro Thr Ala Ser Gln Arg Gly Pro Arg Ala Pro Arg
65                  70                  75                  80

Ala Met
```

<210> 331
<211> 85
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 27154 right: 27408 frame: 2 size(aa): 85

<400> 331

Arg Gln Thr Pro Arg Trp Pro Trp Pro Tyr Thr Ala Ile Leu Gln Pro
1 5 10 15

Trp Ser Pro Pro Ala Ala Arg Pro Gly Pro Trp Pro Arg Val Arg Pro
20 25 30

Trp Ala Pro Ser Ser Ser Arg Ser Ser Arg Trp Pro Ser Gly Arg Pro
35 40 45

Ala Thr Thr Lys Thr Thr Thr Pro Cys Cys Gly Pro Ser Pro Gly Ser
50 55 60

Thr Arg Ser Trp Asp Ala Gly Cys Arg Ala Ser Pro Lys Ser Cys Thr
65 70 75 80

Gly Ser Ala Ala Glu
85

<210> 332
<211> 111
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 27183 right: 27515 frame: -1 size(aa): 111

<400> 332

Asp Ser Val Trp Ala Arg Arg Tyr Arg Ile Gly Val Gly Lys Val Leu
1 5 10 15

Ser Ile Ser Trp Ala Ala Thr Gly Arg Lys Val Ala Val Thr Ser Ile
20 25 30

Pro Pro Gly Tyr Ser Ala Ala Asp Pro Val Gln Asp Phe Gly Leu Ala
35 40 45

Arg Gln Pro Ala Ser Gln Asp Arg Val Asp Pro Gly Glu Gly Pro Gln
50 55 60

Gln Gly Val Val Val Leu Val Val Ala Gly Leu Pro Leu Gly His Arg
65 70 75 80

Glu Glu Arg Leu Leu Glu Gly Ala Gln Gly Leu Thr Leu Gly His Gly
85 90 95

Pro Gly Leu Ala Ala Gly Gly Asp His Gly Cys Arg Ile Ala Val
100 105 110

<210> 333
<211> 123
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 27408 right: 27776 frame: 1 size(aa): 123

<400> 333

Val Ala Trp Arg Tyr Gly Arg Tyr Arg His Leu Pro Ala Cys Arg Gly
1 5 10 15

Pro Ala Asp Arg Gln Asp Leu Pro His Ala Asp Pro Val Pro Ala Gly
20 25 30

Pro Asp Arg Val Leu Arg Pro Gly His Gly Gly Ala His Pro Gly Arg
35 40 45

Arg Arg Val Pro Asp Gln Cys Arg Gly Ala Gly Leu Ser Gln Glu Arg
50 55 60

Ala Glu Arg Arg Arg Gly Gly Pro Gly Gly Ala Ala Leu Asp Pro Pro
65 70 75 80

Trp Ala Arg Gly Pro Pro Gly Arg Thr Asn His Arg Gly His Arg Arg
85 90 95

Leu Arg Arg Arg Asp Leu Ala Arg His Arg Ser Arg Pro His Leu His
100 105 110

Gln Pro Gly Pro Asp Arg Gln Pro Thr Arg Leu
115 120

<210> 334
<211> 129
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 27412 right: 27798 frame: 2 size(aa): 129

<400> 334

Pro Gly Gly Met Asp Val Thr Ala Thr Phe Leu Pro Val Ala Ala Gln
1 5 10 15

Leu Ile Asp Arg Thr Phe Pro Thr Pro Ile Leu Tyr Arg Arg Ala Gln
20 25 30

Thr Glu Ser Tyr Asp Pro Ala Thr Gly Val Leu Thr Arg Asp Val Val
35 40 45

Glu Tyr Pro Ile Asn Ala Gly Val Leu Gly Tyr Arg Lys Ser Glu Arg
50 55 60

Ser Gly Ala Glu Glu Ala Arg Glu Val Arg Leu Trp Ile His His Gly
65 70 75 80

Pro Gly Gly Leu Pro Asp Glu Pro Thr Thr Gly Asp Thr Val Ala Tyr
85 90 95

Asp Gly Gly Ile Trp Arg Val Thr Glu Ala Asp Pro Thr Tyr Thr Ser
100 105 110

Gln Gly Leu Ile Ala Ser Gln Leu Val Cys Glu Tyr Gln Tyr Ala Asp
115 120 125

Val

<210> 335
<211> 97
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 27464 right: 27754 frame: 3 size(aa): 97

<400> 335

Ser Thr Gly Pro Ser Pro Arg Arg Ser Cys Thr Gly Gly Pro Arg Pro
1 5 10 15

Ser Pro Thr Thr Arg Pro Arg Gly Cys Ser Pro Gly Thr Ser Ser Ser
20 25 30

Thr Arg Ser Met Pro Gly Cys Trp Ala Ile Ala Arg Ala Ser Gly Ala
35 40 45

Ala Pro Arg Arg Pro Gly Arg Cys Gly Ser Gly Ser Thr Met Gly Pro
50 55 60

Gly Ala Ser Arg Thr Asn Gln Pro Pro Gly Thr Pro Ser Pro Thr Thr
65 70 75 80

Ala Gly Ser Gly Ala Ser Gln Lys Pro Thr Pro Pro Thr Pro Ala Arg
85 90 95

Ala

<210> 336
<211> 50
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 27569 right: 27718 frame: -3 size(aa): 50

<400> 336

Arg Ala Arg Ser Arg Arg Arg Arg Arg Arg Cys Pro Arg Trp Leu Val
1 5 10 15

Arg Pro Gly Gly Pro Arg Ala His Gly Gly Ser Arg Ala Ala Pro Pro
20 25 30

Gly Pro Pro Arg Arg Arg Ser Ala Arg Ser Cys Asp Ser Pro Ala Pro
35 40 45

Arg His

50

<210> 337
<211> 197
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 27722 right: 28312 frame: -3 size(aa): 197

<400> 337

Thr Gly Arg Arg Ala Gly Ser Gly Ala Ser Arg Arg Cys Cys Arg Arg
1 5 10 15

Arg Leu Thr Pro Gly Pro Leu Arg Arg Arg Arg Pro Arg Gly Trp
20 25 30

Arg Gly Trp Gly Arg Arg Thr Ser Gln Val Val Leu Leu Asp Glu
35 40 45

Leu Ala Gly Gly Val Leu Asp Pro Gly Gln Pro Gly Leu Thr Glu Gly
50 55 60

Pro Glu Pro Gly Gly Gly Leu Arg His Asp Ser Ala Phe Asp Ser Asp
65 70 75 80

Gly Phe Ser Val Gly Gln Thr Val Gly Gln Val His Leu Val Ala Gly
85 90 95

His Gln Ala Gln Gly Leu Gly Val Gly Leu Arg Gly Ala Gly Ala Leu
100 105 110

Arg Gly His Leu Ala Arg Gly Pro Ala Leu Ala Gly Glu Pro Gly Gly
115 120 125

Ala Glu Pro Ala Gly Val Asp Gly Ala His Cys Gly Ala Pro Lys Val
130 135 140

Gly Leu Gly Leu Asp Asp Gly Glu Ala Gln Leu Gly Ala Gln Gly Leu
145 150 155 160

Gly Gln Val Leu Leu Glu Arg Leu Gly Ile Val Lys Arg Arg His Thr
165 170 175

Gly Thr His Lys Arg Val Gly Trp Arg Ser Gly Pro Gly Trp Cys Arg
180 185 190

Trp Gly Arg Leu Leu
195

<210> 338
<211> 145
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 27758 right: 28192 frame: 3 size(aa): 145

<400> 338

Ser Pro Ala Asn Ser Phe Val Ser Thr Ser Met Pro Thr Phe Asn Asp
1 5 10 15

Pro Glu Ala Leu Lys Lys His Leu Ser Glu Ala Leu Gly Ala Gln Leu
20 25 30

Arg Leu Thr Val Val Gln Ala Gln Ala Asp Leu Gly Ser Ala Ala Val
35 40 45

Ser Pro Val Asp Thr Gly Arg Phe Arg Ser Ser Trp Phe Ala Ser Lys
50 55 60

Ser Arg Pro Ser Ser Glu Val Ala Pro Glu Gly Ala Ser Thr Pro Gln
65 70 75 80

Ser Asp Ala Glu Ala Leu Arg Leu Val Ala Gly Asp Glu Val His Leu
85 90 95

Thr Asn Ser Leu Pro Tyr Ala Glu Ala Val Ala Val Glu Gly Arg Val
100 105 110

Val Ser Lys Pro Ala Thr Trp Phe Arg Ser Phe Arg Glu Ala Arg Leu
115 120 125

Pro Arg Ile Gln Asp Ala Ala Gly Lys Leu Ile Lys Lys Gln Tyr Asp
130 135 140

Leu
145

<210> 339
<211> 88
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 27802 right: 28065 frame: 2 size(aa): 88

<400> 339

Arg Ser Arg Gly Ala Gln Glu Ala Pro Val Arg Gly Pro Gly Arg Pro
1 5 10 15

Ala Ala Pro His Arg Arg Pro Gly Pro Gly Arg Pro Trp Glu Arg Arg
20 25 30

Ser Glu Pro Arg Arg His Arg Pro Val Pro Leu Leu Leu Val Arg Gln
35 40 45

Gln Glu Pro Ala Leu Glu Arg Gly Gly Pro Gly Gly Arg Gln His Pro
50 55 60

Ala Ile Arg Arg Arg Gly Pro Ala Pro Gly Gly Arg Arg Arg Gly Ala
65 70 75 80

Pro Asp Gln Gln Ser Ala Leu Arg
85

<210> 340
<211> 103
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 27861 right: 28169 frame: -1 size(aa): 103

<400> 340

Ala Cys Arg Arg Arg Pro Gly Ser Trp Ala Thr Gly Pro His Gly Arg
1 5 10 15

Thr Gly Thr Arg Trp Arg Ala Ser Thr Arg Leu Gly Leu Arg Gln Arg
20 25 30

Arg Leu Gln Arg Arg Ala Asp Cys Trp Ser Gly Ala Pro Arg Arg Arg
35 40 45

Pro Pro Gly Ala Gly Pro Arg Arg Arg Ile Ala Gly Cys Trp Arg Pro
50 55 60

Pro Gly Pro Pro Arg Ser Arg Ala Gly Ser Cys Trp Arg Thr Arg Arg
65 70 75 80

Ser Gly Thr Gly Arg Cys Arg Arg Gly Ser Leu Arg Arg Ser Gln Gly
85 90 95

Arg Pro Gly Pro Gly Arg Arg
100

<210> 341
<211> 93
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 28047 right: 28325 frame: 1 size(aa): 93

<400> 341

Pro Thr Val Cys Pro Thr Leu Lys Pro Ser Leu Ser Lys Ala Glu Ser
1 5 10 15

Cys Arg Ser Pro Pro Pro Gly Ser Gly Pro Ser Val Arg Pro Gly Cys
20 25 30

Pro Gly Ser Arg Thr Pro Pro Ala Ser Ser Ser Arg Ser Ser Thr Thr
35 40 45

Cys Asp Val Leu Arg Pro His Pro Arg His Pro Arg Gly Arg Arg Arg
50 55 60

Arg Arg Ser Gly Pro Gly Val Ser Arg Leu Arg Gln His Leu Arg Asp

65 70 75 80

Ala Pro Glu Pro Ala Leu Arg Pro Val His Arg Gln Leu
85 90

<210> 342
<211> 65
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 28063 right: 28257 frame: -2 size(aa): 65

<400> 342

His Arg Val His Cys Gly Gly Asp Val Ala Leu Glu Asp Gly Ala Asp
1 5 10 15

Gly Gly Glu Gly His His Arg Ser Tyr Cys Phe Leu Met Ser Leu Pro
20 25 30

Ala Ala Ser Trp Ile Leu Gly Asn Arg Ala Ser Arg Lys Asp Arg Asn
35 40 45

Gln Val Ala Gly Phe Asp Thr Thr Arg Pro Ser Thr Ala Thr Ala Ser
50 55 60

Ala
65

<210> 343
<211> 161
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 28132 right: 28614 frame: 2 size(aa): 161

<400> 343

Gly Pro Val Ala Gln Asp Pro Gly Arg Arg Arg Gln Ala His Gln Glu
1 5 10 15

Ala Val Arg Pro Val Met Ser Phe Ala Pro Ile Arg Ala Ile Leu Glu
20 25 30

Gly Asp Val Ala Ala Ala Val Asp Pro Val Ser Val Val Phe Asp Asn
35 40 45

Thr Phe Glu Thr Pro Pro Ser Leu Pro Tyr Val Arg Phe Thr Val Ser
50 55 60

Phe Asp Ala Pro Thr Ser Asp Ala Ile Gly Gly Gly Met Ala Ser His
65 70 75 80

Val Thr Gly Val Val Gln Ala Asn Val Tyr Val Ala Lys Met Thr Gly
85 90 95

```
Ser Leu Gly Gly Glu Leu Leu Ala Ala Lys Ile Leu Asp Ala Trp Gln
            100                 105                 110

Asp Leu Ala Ala Ala Ala Val Val Pro Pro Gly Trp Arg Val Val Pro
        115                 120                 125

Arg Ser Leu Glu Gly Pro Gln Thr Leu Ala Pro Asp Lys Arg Glu Ala
    130                 135                 140

His Val Val Val Val Gly Ala Ala Phe Ser Ala Thr Leu Tyr Glu Thr
145                 150                 155                 160

Pro
```

<210> 344
<211> 59
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 28196 right: 28372 frame: 3 size(aa): 59

<400> 344

```
Cys Pro Ser Pro Pro Ser Ala Pro Ser Ser Arg Ala Thr Ser Pro Pro
1               5                   10                  15

Gln Trp Thr Arg Cys Gln Ser Ser Ser Thr Thr Pro Ser Arg Arg Pro
            20                  25                  30

Arg Ala Cys Pro Thr Ser Gly Ser Pro Ser Ala Leu Thr Pro Arg Arg
        35                  40                  45

Arg Thr Pro Ser Ala Ala Ala Trp Pro Pro Thr
    50                  55
```

<210> 345
<211> 123
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 28261 right: 28629 frame: -2 size(aa): 123

<400> 345

```
Arg Arg Pro Arg Leu Gly Arg Leu Val Glu Arg Arg Arg Glu Gly Gly
1               5                   10                  15

Pro Asp Asp His Asp Val Gly Leu Pro Leu Ile Arg Gly Gln Gly Leu
            20                  25                  30

Arg Pro Leu Gln Gly Thr Gly His Asp Ala Pro Pro Gly Gly His Asp
        35                  40                  45
```

```
Gly Cys Ser Gly Gln Val Leu Pro Gly Val Gln Asp Leu Gly Arg Gln
    50                  55                  60

Glu Leu Pro Ala Gln Ala Ala Cys His Leu Gly His Val Asp Val Gly
65                  70                  75                  80

Leu His His Pro Gly His Val Gly Gly His Ala Ala Ala Asp Gly Val
                85                  90                  95

Arg Arg Arg Gly Val Lys Ala Asp Gly Glu Pro Asp Val Gly Gln Ala
            100                 105                 110

Arg Gly Arg Leu Glu Gly Val Val Glu Asp Asp
        115                 120
```

<210> 346
<211> 155
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 28322 right: 28786 frame: -3 size(aa): 155

<400> 346

```
Ser Trp Ser Ala Gly Thr Val Ile Ser Val Pro Ala Gly Lys Ser Val
1               5                   10                  15

Leu Ser Ser Arg Gln Cys Arg Val Ala Ala Gly Met Asn Ala Ala Asp
            20                  25                  30

Pro Ser Ile Pro Asp Arg Arg Val Phe Glu Gln Val Thr Gly Ile Trp
        35                  40                  45

Gly Leu Gly Val Thr Ser Ser Gln Ile Arg Ala Ser Arg Arg Ala Ser
    50                  55                  60

Pro Arg Arg Arg Pro Arg Arg Pro Arg Arg Gly Pro Pro Ala Tyr Pro
65                  70                  75                  80

Gly Pro Gly Ser Ala Ala Pro Pro Gly Asn Gly Ala Arg Arg Ala Thr
                85                  90                  95

Arg Gly Ala Arg Arg Leu Gln Arg Pro Gly Pro Ala Arg Arg Pro Gly
            100                 105                 110

Ser Trp Pro Pro Gly Ala Pro Arg Pro Gly Cys Leu Ser Ser Trp Pro
        115                 120                 125

Arg Arg Arg Trp Pro Ala Pro Pro Arg Ser Arg Gly Arg Pro Cys Arg
    130                 135                 140

Arg Arg Trp Arg Pro Thr Ser Gly Arg Gln Ser
145                 150                 155
```

<210> 347
<211> 74
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 28329 right: 28550 frame: 1 size(aa): 74

<400> 347

Arg Pro Asp Val Gly Arg His Arg Arg Arg His Gly Leu Pro Arg Asp
1 5 10 15

Arg Gly Gly Ala Gly Gln Arg Leu Arg Gly Gln Asp Asp Arg Gln Pro
20 25 30

Gly Arg Gly Ala Pro Gly Gly Gln Asp Pro Gly Arg Leu Ala Gly Pro
35 40 45

Gly Arg Cys Ser Arg Arg Ala Pro Arg Val Ala Arg Arg Ala Pro Phe
50 55 60

Pro Gly Gly Ala Ala Asp Pro Gly Pro Gly
65 70

<210> 348
<211> 67
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 28401 right: 28601 frame: -1 size(aa): 67

<400> 348

Ser Val Ala Glu Lys Ala Ala Pro Thr Thr Thr Thr Trp Ala Ser Arg
1 5 10 15

Leu Ser Gly Ala Arg Val Cys Gly Pro Ser Arg Glu Arg Gly Thr Thr
20 25 30

Arg His Pro Gly Gly Thr Thr Ala Ala Ala Ala Arg Ser Cys Gln Ala
35 40 45

Ser Arg Ile Leu Ala Ala Arg Ser Ser Pro Pro Arg Leu Pro Val Ile
50 55 60

Leu Ala Thr
65

<210> 349
<211> 74
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 28415 right: 28636 frame: 3 size(aa): 74

<400> 349

```
Gln Ala Ala Trp Ala Gly Ser Ser Trp Arg Pro Arg Ser Trp Thr Pro
1               5                  10                  15

Gly Arg Thr Trp Pro Leu Gln Pro Ser Cys Pro Pro Gly Gly Ala Ser
            20                  25                  30

Cys Pro Val Pro Trp Arg Gly Arg Arg Pro Trp Pro Arg Ile Ser Gly
        35                  40                  45

Arg Pro Thr Ser Trp Ser Ser Gly Pro Pro Ser Arg Arg Arg Ser Thr
    50                  55                  60

Arg Arg Pro Asn Leu Gly Arg Arg His Pro
65                  70
```

<210> 350
<211> 298
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 28554 right: 29447 frame: 1 size(aa): 298

<400> 350

```
Ala Gly Gly Pro Arg Arg Gly Arg Arg Gly Arg Leu Leu Gly Asp Ala
1               5                  10                  15

Leu Arg Asp Ala Leu Ile Trp Asp Asp Val Thr Pro Arg Pro Gln Met
            20                  25                  30

Pro Val Thr Cys Ser Lys Thr Leu Leu Ser Gly Ile Asp Gly Ser Ala
        35                  40                  45

Ala Phe Ile Pro Ala Ala Thr Arg His Cys Leu Leu Asp Asn Thr Asp
    50                  55                  60

Phe Pro Ala Gly Thr Glu Ile Thr Val Pro Ala Asp His Asp Tyr Leu
65                  70                  75                  80

Val Gly Asp Pro Val Thr Phe Glu Ala Gln Gly Thr Ala Val Leu Asp
                85                  90                  95

Thr Ala Leu Thr Glu Gly Thr Thr Tyr Tyr Val Val Thr Glu Ala His
            100                 105                 110

Gly Ala Ser Pro His Ile Glu Val Ser Ala Thr Ala Gly Gly Ala Pro
        115                 120                 125

Ile Thr Leu Asn Gly Asp Gly Gly Thr Gly Thr Ala Asn Ser Gly Ala
    130                 135                 140

Pro Ala Gln Asn His Ile Lys Ile Gln Phe Ala Ala His Met Ala Leu
145                 150                 155                 160

Cys Gln Val Gln Gly Trp Asn Cys Asn Leu Ser Arg Glu Glu Val Met
                165                 170                 175
```

Thr Thr Ser Leu Gln Cys Gly Pro Thr Thr Asp Asn Gly Ala Asn Ala
180 185 190

Pro Phe Met Thr Arg Gln Ala Gly Tyr Val Asp Gly Ser Gly Ser Met
195 200 205

Val Val Arg Phe Thr Arg Asp Gln Glu Ser Leu Ser Arg Arg Leu Leu
210 215 220

Arg Asn Ser Leu Arg Lys Asn Gln Asp Gly Ala Ser Val Gln Leu Phe
225 230 235 240

Val Asp Thr Val Tyr Gly Pro Ser Gly Thr Ile Asp Leu Ala Gly Ser
245 250 255

Glu Phe Ile Glu Gly Pro Val Ser Ile Leu Gly Phe Ala Leu Gly Val
260 265 270

Thr Thr Gly Ser Glu Pro Thr Gln Gly Thr Val Asn Phe Ser Phe Ser
275 280 285

Asp Gln Pro Thr Asn Ile Phe Gly Ala Leu
290 295

<210> 351
<211> 377
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 28617 right: 29747 frame: -1 size(aa): 377

<400> 351

Ser Ala Leu Thr Arg Ser Ala Thr Tyr Ser Ala Leu Thr Asp Arg Arg
1 5 10 15

Ser Trp Ala Arg Ser Pro Gly Ala Asn Arg Gly Trp Pro Leu Ala Ser
20 25 30

Phe Ala Leu Arg Ile Ser Arg Pro Arg Leu Thr Ser Ser Cys Ser Ser
35 40 45

Leu Leu Ala Phe Ser Ala Ala Trp Arg Arg Ser Ala Arg Val Thr Gly
50 55 60

Val Val Tyr Ile Ser Ser Val Ala Pro Asp Arg Lys Val Ile Arg Cys
65 70 75 80

Arg Leu Ser Val Trp Arg Leu Asp Ser Ala Leu Ser Arg Ser Ile Ala
85 90 95

Arg Met Ser Ser Glu Gly Ser Glu Asp Val Gly Gly Leu Val Ala Glu
100 105 110

Thr Glu Val Asp Gly Ala Leu Gly Gly Leu Arg Pro Gly Gly Tyr Ala
115 120 125

Gln Gly Glu Ala Gln Asp Arg His Arg Ala Leu Asp Glu Leu Gly Ala

130 135 140

Gly Gln Val Asp Gly Ala Ala Gly Ala Val Asp Arg Val Asp Glu Gln
145 150 155 160

Leu His Arg Gly Ala Val Leu Val Leu Pro Glu Ala Val Ala Glu Glu
165 170 175

Ala Ala Arg Gln Arg Leu Leu Val Pro Gly Glu Ala Asp His His Arg
180 185 190

Ala Gly Ala Val Asp Val Ala Gly Leu Ala Gly His Glu Arg Gly Ile
195 200 205

Gly Ala Val Val Gly Arg Arg Pro Ala Leu Gln Ala Arg Gly His Asp
210 215 220

Leu Leu Pro Ala Glu Val Ala Val Pro Ala Leu Asp Leu Ala Glu Gly
225 230 235 240

His Val Gly Ser Glu Leu Asp Leu Asp Val Val Leu Gly Arg Gly Pro
245 250 255

Gly Val Gly Gly Thr Gly Ala Ala Val Thr Val Gln Gly Asp Arg Gly
260 265 270

Ala Pro Cys Gly Gly Gly His Leu Asp Val Gly Ala Gly Ala Val Gly
275 280 285

Leu Gly Asp His Val Val Gly Gly Ala Leu Gly Gln Gly Gly Ile Gln
290 295 300

Asp Gly Gly Ala Leu Gly Leu Glu Arg Asp Gly Ile Thr His Gln Val
305 310 315 320

Val Val Val Gly Arg Asp Arg Asp Leu Gly Thr Ser Arg Glu Ile Gly
325 330 335

Val Val Glu Gln Ala Val Pro Gly Ser Gly Gly Asp Glu Arg Gly Arg
340 345 350

Pro Val Asp Pro Arg Gln Glu Gly Phe Arg Ala Gly Asp Gly His Leu
355 360 365

Gly Pro Arg Gly Asp Val Val Pro Asp
370 375

<210> 352
<211> 77
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 28618 right: 28848 frame: 2 size(aa): 77

<400> 352

Ser Gly Thr Thr Ser Pro Leu Gly Pro Arg Cys Pro Ser Pro Ala Arg
1 5 10 15

Lys Pro Ser Cys Arg Gly Ser Thr Gly Arg Pro Arg Ser Ser Pro Pro
20 25 30

Leu Pro Gly Thr Ala Cys Ser Thr Thr Pro Ile Ser Arg Leu Val Pro
35 40 45

Arg Ser Arg Ser Arg Pro Thr Thr Thr Thr Trp Trp Val Ile Pro Ser
50 55 60

Arg Ser Arg Pro Arg Ala Pro Pro Ser Trp Ile Pro Pro
65 70 75

<210> 353
<211> 53
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 28640 right: 28798 frame: 3 size(aa): 53

<400> 353

Ala Pro Asp Ala Arg His Leu Leu Glu Asn Pro Pro Val Gly Asp Arg
1 5 10 15

Arg Val Gly Arg Val His Pro Arg Arg Tyr Pro Ala Leu Pro Ala Arg
20 25 30

Gln His Arg Phe Pro Gly Trp Tyr Arg Asp His Gly Pro Gly Arg Pro
35 40 45

Arg Leu Pro Gly Gly
50

<210> 354
<211> 50
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 28802 right: 28951 frame: 3 size(aa): 50

<400> 354

Ser Arg His Val Arg Gly Pro Gly His Arg Arg Pro Gly Tyr Arg Pro
1 5 10 15

Asp Arg Gly His His Leu Leu Arg Gly His Arg Gly Pro Arg Arg Gln
20 25 30

Pro Pro His Arg Gly Val Arg His Arg Arg Gly Arg Pro Asp His Pro
35 40 45

Glu Arg
50

<210> 355
<211> 94
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 28871 right: 29152 frame: -3 size(aa): 94

<400> 355

Pro Ala Trp Arg Val Met Asn Gly Ala Leu Ala Pro Leu Ser Val Val
1 5 10 15

Gly Pro His Cys Arg Leu Val Val Met Thr Ser Ser Arg Leu Arg Leu
20 25 30

Gln Phe Gln Pro Trp Thr Trp Gln Arg Ala Met Trp Ala Ala Asn Trp
35 40 45

Ile Leu Met Trp Phe Trp Ala Gly Ala Pro Glu Leu Ala Val Pro Val
50 55 60

Pro Pro Ser Pro Phe Arg Val Ile Gly Ala Pro Pro Ala Val Ala Asp
65 70 75 80

Thr Ser Met Trp Gly Leu Ala Pro Trp Ala Ser Val Thr Thr
85 90

<210> 356
<211> 186
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 28955 right: 29512 frame: 3 size(aa): 186

<400> 356

Arg Arg His Arg Tyr Arg Gln Leu Arg Gly Pro Gly Pro Glu Pro His
1 5 10 15

Gln Asp Pro Val Arg Cys Pro His Gly Pro Leu Pro Gly Pro Gly Leu
20 25 30

Glu Leu Gln Pro Gln Pro Gly Gly Gly His Asp His Glu Pro Ala Val
35 40 45

Arg Ala Asp Asp Arg Gln Arg Arg Gln Cys Pro Val His Asp Pro Pro
50 55 60

Gly Arg Leu Arg Arg Arg Leu Arg Leu Asp Gly Gly Pro Leu His Pro
65 70 75 80

Gly Pro Gly Val Ala Val Ser Pro Pro Pro Pro Gln Gln Pro Pro Glu
85 90 95

Glu Pro Gly Arg Arg Leu Gly Ala Ala Val Arg Arg His Gly Leu Arg

100 105 110

Pro Gln Arg His His Arg Pro Gly Arg Leu Arg Val His Arg Gly Pro
115 120 125

Gly Val Asp Pro Gly Leu Arg Pro Gly Arg Asn His Arg Val Gly Ala
130 135 140

His Pro Gly His Arg Gln Leu Gln Phe Gln Arg Pro Ala His Gln His
145 150 155 160

Leu Arg Ser Pro Leu Thr Thr Cys Glu Arg Ser Thr Cys Ser Arg Gln
165 170 175

Asn Pro Thr Ser Arg Arg Ser Ser Gly Thr
180 185

<210> 357
<211> 76
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 29140 right: 29367 frame: 2 size(aa): 76

<400> 357

Pro Ala Arg Pro Ala Thr Ser Thr Ala Pro Ala Arg Trp Trp Ser Ala
1 5 10 15

Ser Pro Gly Thr Arg Ser Arg Cys Leu Ala Ala Ser Ser Ala Thr Ala
20 25 30

Ser Gly Arg Thr Arg Thr Ala Pro Arg Cys Ser Cys Ser Ser Thr Arg
35 40 45

Ser Thr Ala Pro Ala Ala Pro Ser Thr Trp Pro Ala Pro Ser Ser Ser
50 55 60

Arg Ala Arg Cys Arg Ser Trp Ala Ser Pro Trp Ala
65 70 75

<210> 358
<211> 62
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 29288 right: 29473 frame: -3 size(aa): 62

<400> 358

Ala Gly Arg Ser Leu Ala Cys Arg Gln Arg Ala Pro Lys Met Leu Val
1 5 10 15

Gly Trp Ser Leu Lys Leu Lys Leu Thr Val Pro Trp Val Gly Ser Asp
20 25 30

```
Pro Val Val Thr Pro Arg Ala Lys Pro Arg Ile Asp Thr Gly Pro Ser
        35                  40                  45

Met Asn Ser Glu Pro Ala Arg Ser Met Val Pro Leu Gly Pro
    50                  55                  60
```

<210> 359
<211> 156
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 29371 right: 29838 frame: 2 size(aa): 156

<400> 359

```
Pro Pro Gly Arg Ser Pro Pro Arg Ala Pro Ser Thr Ser Val Ser Ala
1               5                   10                  15

Thr Ser Pro Pro Thr Ser Ser Glu Pro Ser Asp Asp Met Arg Ala Ile
            20                  25                  30

Asp Leu Leu Lys Ala Glu Ser Asn Leu Gln Thr Leu Lys Arg His Leu
        35                  40                  45

Ile Thr Phe Arg Ser Gly Ala Thr Leu Glu Met Tyr Thr Thr Pro Val
    50                  55                  60

Thr Leu Ala Glu Arg Arg Gln Ala Ala Glu Asn Ala Lys Ser Asp Glu
65                  70                  75                  80

Gln Leu Glu Val Asn Leu Gly Leu Leu Ile Leu Lys Ala Lys Asp Ala
                85                  90                  95

Asn Gly Gln Pro Leu Phe Ala Pro Gly Asp Leu Ala Gln Leu Arg Arg
            100                 105                 110

Ser Val Ser Ala Glu Tyr Val Ala Asp Leu Val Asn Ala Leu Tyr Ser
        115                 120                 125

Thr Pro Ala Leu Asp Glu Gly Glu Ala Ser Asp Pro Lys Pro Ser Ser
    130                 135                 140

Pro Ser Ser Gly Lys Thr Asn Ser Ser Ser Ser Asn
145                 150                 155
```

<210> 360
<211> 178
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 29416 right: 29949 frame: -2 size(aa): 178

<400> 360

```
Gly Ala Pro Pro Pro Gly Ser Gly Pro Gly Pro Ala Arg Gly Arg Ala
1               5                   10                  15

Arg Pro Arg Ser Cys Pro Ala Ala Ser Gly Pro Arg Ser Ser Arg Ala
            20                  25                  30

Arg Arg Pro Gly Ser Val Arg Thr Gly Ala Val Cys Leu Ala Gly Thr
        35                  40                  45

Gly Arg Gly Gly Leu Trp Val Gly Gly Leu Ala Leu Val Gln Gly Arg
    50                  55                  60

Arg Arg Val Glu Arg Val Asp Gln Val Gly His Val Leu Gly Ala Asp
65                  70                  75                  80

Gly Pro Ala Gln Leu Gly Gln Val Ala Gly Gly Glu Gln Gly Leu Ala
                85                  90                  95

Val Gly Val Leu Arg Leu Glu Asp Gln Gln Ala Glu Val Asp Leu Gln
            100                 105                 110

Leu Leu Val Ala Leu Gly Val Leu Gly Gly Leu Ala Thr Leu Gly Gln
        115                 120                 125

Gly Asp Arg Gly Gly Val His Leu Glu Arg Gly Thr Gly Pro Glu Gly
    130                 135                 140

Asp Gln Val Pro Leu Glu Arg Leu Glu Val Gly Phe Cys Leu Glu Gln
145                 150                 155                 160

Val Asp Arg Ser His Val Val Arg Gly Leu Arg Arg Cys Trp Trp Ala
                165                 170                 175

Gly Arg
```

<210> 361
<211> 171
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 29451 right: 29963 frame: 1 size(aa): 171

<400> 361

```
Arg His Ala Ser Asp Arg Pro Ala Gln Gly Arg Ile Gln Pro Pro Asp
1               5                   10                  15

Ala Gln Ala Ala Pro Asp His Leu Pro Val Arg Cys His Ala Arg Asp
            20                  25                  30

Val His His Pro Gly His Pro Gly Arg Ala Ser Pro Gly Arg Arg Glu
        35                  40                  45

Arg Gln Glu Arg Arg Ala Ala Gly Gly Gln Pro Arg Pro Ala Asp Pro
    50                  55                  60

Gln Gly Glu Gly Arg Gln Arg Pro Ala Pro Val Arg Pro Arg Arg Pro
```

65 70 75 80

Gly Pro Ala Ala Pro Val Arg Gln Arg Arg Val Arg Gly Arg Pro Gly
85 90 95

Gln Arg Ala Leu Leu Asp Ala Cys Pro Gly Arg Gly Arg Gly Leu Arg
100 105 110

Pro Lys Ala Leu Leu Ala Gln Phe Arg Gln Asp Lys Gln Leu Gln Phe
115 120 125

Glu Leu Ser Leu Ala Ser Glu Leu Gly Met Thr Trp Gly Gln Met Gln
130 135 140

Gln Asp Met Thr Glu Ala Glu Leu Ala Leu Trp Gln Val Arg Ala Arg
145 150 155 160

Tyr Leu Glu Glu Glu Arg Leu Arg Ser Pro Val
165 170

<210> 362
<211> 116
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 29639 right: 29986 frame: 3 size(aa): 116

<400> 362

Ser Ser Arg Arg Arg Thr Pro Thr Ala Ser Pro Cys Ser Pro Pro Ala
1 5 10 15

Thr Trp Pro Ser Cys Ala Gly Pro Ser Ala Pro Ser Thr Trp Pro Thr
20 25 30

Trp Ser Thr Arg Ser Thr Arg Arg Leu Pro Trp Thr Arg Ala Arg Pro
35 40 45

Pro Thr Gln Ser Pro Pro Arg Pro Val Pro Ala Arg Gln Thr Ala Pro
50 55 60

Val Arg Thr Glu Pro Gly Leu Arg Ala Arg Asp Asp Leu Gly Pro Asp
65 70 75 80

Ala Ala Gly His Asp Arg Gly Arg Ala Arg Pro Leu Ala Gly Pro Gly
85 90 95

Pro Leu Pro Gly Gly Gly Ala Pro Gln Val Ser Gly Leu Thr Trp Ala
100 105 110

Gly Gly Cys Glu
115

<210> 363
<211> 63
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 29741 right: 29929 frame: -3 size(aa): 63

<400> 363

Arg Ala Arg Thr Cys Gln Arg Ala Ser Ser Ala Ser Val Met Ser Cys
1 5 10 15

Cys Ile Trp Pro Gln Val Ile Pro Ser Ser Glu Ala Arg Leu Ser Ser
20 25 30

Asn Trp Ser Cys Leu Ser Cys Arg Asn Trp Ala Arg Arg Ala Leu Gly
35 40 45

Arg Arg Pro Arg Pro Arg Pro Gly Gln Ala Ser Ser Arg Ala Arg
50 55 60

<210> 364
<211> 82
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 29751 right: 29996 frame: -1 size(aa): 82

<400> 364

Ser Lys Ser Ile Arg Ser Arg Leu Pro Arg Ser Asp Arg Arg Pro Glu
1 5 10 15

Ala Leu Leu Leu Gln Val Ala Gly Pro Asp Leu Pro Glu Gly Glu Leu
20 25 30

Gly Leu Gly His Val Leu Leu His Leu Ala Pro Gly His Pro Glu Leu
35 40 45

Gly Gly Gln Ala Gln Phe Glu Leu Glu Leu Phe Val Leu Pro Glu Leu
50 55 60

Gly Glu Glu Gly Phe Gly Ser Glu Ala Ser Pro Ser Ser Arg Ala Gly
65 70 75 80

Val Glu

<210> 365
<211> 61
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 29893 right: 30075 frame: 2 size(aa): 61

<400> 365

```
Pro Arg Pro Ser Ser Pro Ser Gly Arg Ser Gly Pro Ala Thr Trp Arg
1               5                   10                  15

Arg Ser Ala Ser Gly Leu Arg Ser Asp Leu Gly Arg Arg Leu Arg Ile
            20                  25                  30

Asp Phe Asp Gln Arg Leu Gly Gly Cys Leu Asp Lys His Pro Thr Gly
        35                  40                  45

Arg Glu Asp Gln His Arg Arg His Gln Phe Thr Arg Gly
    50                  55                  60
```

<210> 366
<211> 133
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 29953 right: 30351 frame: -2 size(aa): 133

<400> 366

```
Pro Trp Pro Arg Arg Trp Arg Pro His Pro Gly Arg Arg Met Pro Gly
1               5                   10                  15

Gly Pro Pro Arg Ala Cys Arg Ser Cys Arg Trp Arg Pro Gly Arg Cys
            20                  25                  30

Cys Pro Leu Ala Arg Thr His Arg Gly Pro Arg Arg Ser Arg Arg Pro
        35                  40                  45

Val Pro Gly Pro Gly Ala Ala Ala Pro Ser Gly Gln Ala Ala Cys Pro
    50                  55                  60

Pro Gly Gly Cys Gln Arg Arg Asp Arg Pro Gly Arg Arg Cys Ser Cys
65                  70                  75                  80

Arg Gln Leu Ser Tyr Gly Ala Gly Met Arg Thr Leu Thr Ala Cys Glu
                85                  90                  95

Leu Val Ala Thr Val Leu Ile Leu Thr Ala Cys Gly Val Leu Val Lys
            100                 105                 110

Thr Thr Ala Gln Pro Leu Ile Glu Val Tyr Ser Gln Pro Pro Ala Gln
        115                 120                 125

Val Arg Pro Glu Thr
    130
```

<210> 367
<211> 293
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 30087 right: 30965 frame: -1 size(aa): 293

<400> 367

Gly Leu Glu Arg Pro Glu Asp Arg Trp His Asp Ala Arg Pro His Asp
1 5 10 15

Arg Pro His Val Asp Glu Pro Val Phe Gln Leu Leu Asp Val Gly Ala
20 25 30

Gly Arg Val Gln Arg Gly Val Gln Leu Val Gly Pro Leu Gly Ala Asp
35 40 45

Val Leu Gln Gly Leu Glu Asp Asp Val Pro Gly Glu Leu Ala Leu Gly
50 55 60

Arg His Leu Ala Gln Leu Pro Gly Val Asp Ala His Asp Pro Gly His
65 70 75 80

Leu Asp Ala Asp Gly Arg Arg Leu Leu His Asp Arg Val Glu Leu Val
85 90 95

Ala Pro Glu Arg Pro Gly Ala Gln Gly Leu Gly Gln Leu Pro Glu Gly
100 105 110

Ala Leu Ala Leu Leu Gly Arg Arg Ala Ala Val Pro Gly Arg Arg Val
115 120 125

Glu Ala Leu Val Asp Val Pro His Leu Gly Gln Gly Glu Ala Gln Gly
130 135 140

Ala Glu Ser Gly Val Gly Leu Arg Glu Ala Gly Leu Gly Arg Leu Leu
145 150 155 160

Arg Glu Ala Glu Leu Gly Cys Gly Leu Leu Gly His Leu Leu Glu Pro
165 170 175

Gly Val Val Val Gln Ala Gly Ser Glu Pro Pro Asp Pro His Leu Gly
180 185 190

Val Leu Gly Leu His Pro His Leu Gln Asp Arg Val Ser His Gly Pro
195 200 205

Gly Gly Gly Asp His Thr Gln Gly Gly Glu Cys Pro Glu Ala Pro His
210 215 220

Glu His Val Asp Leu Ala Gly Gly Gly Leu Gly Ala Val Ala His Trp
225 230 235 240

Pro Glu His Ile Ala Ala Pro Gly Gly Pro Ala Gly Pro Phe Gln Ala
245 250 255

Pro Glu Pro Leu Leu His Pro Gly Lys Leu Arg Val Arg Leu Ala Gly
260 265 270

Ala Lys Asp Glu Ile Asp Leu Val Gly Gly Ala His Ala Gly Ser Leu
275 280 285

Ala Thr Val Arg Ala
290

<210> 368
<211> 84

<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 30101 right: 30352 frame: 3 size(aa): 84

<400> 368

Leu Ser Cys Arg His Glu His Arg Leu Pro Gly Arg Ser Arg Leu Trp
1 5 10 15

His Pro Pro Gly Gly His Ala Ala Cys Pro Asp Gly Ala Ala Ala Pro
20 25 30

Gly Pro Gly Thr Gly Arg Arg Asp Arg Arg Gly Pro Arg Cys Val Arg
35 40 45

Ala Asn Gly Gln Gln Arg Pro Gly Arg His Arg Gln Asp Arg His Ala
50 55 60

Arg Gly Gly Pro Pro Gly Ile Arg Arg Pro Gly Cys Gly Arg His Arg
65 70 75 80

Arg Gly His Gly

<210> 369
<211> 860
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 30105 right: 32684 frame: 1 size(aa): 860

<400> 369

Ala Ala Gly Met Ser Thr Ala Tyr Gln Val Asp Leu Val Phe Gly Thr
1 5 10 15

Arg Gln Ala Asp Thr Gln Leu Ala Arg Met Glu Gln Arg Leu Arg Gly
20 25 30

Leu Glu Arg Ala Gly Gly Thr Ala Gly Gly Arg Asp Val Phe Gly Pro
35 40 45

Met Gly Asn Ser Ala Gln Ala Ala Thr Gly Lys Ile Asp Met Leu Val
50 55 60

Gly Gly Leu Arg Ala Phe Ala Ala Leu Gly Val Val Ala Thr Ala Gly
65 70 75 80

Ala Met Ala Asn Ser Ile Leu Gln Met Gly Met Gln Ala Glu Asn Thr
85 90 95

Glu Val Arg Val Arg Gly Leu Thr Ala Gly Leu Asp Asp Tyr Ala Arg
100 105 110

```
Phe Gln Glu Val Ala Gln Glu Ala Ala Ala Lys Phe Gly Leu Ser Gln
        115                 120                 125

Gln Ala Ala Gln Ala Gly Leu Ala Gln Thr Tyr Ala Arg Leu Arg Pro
    130                 135                 140

Leu Gly Phe Thr Leu Ser Glu Val Arg Asp Val Tyr Glu Gly Phe Asn
145                 150                 155                 160

Thr Ala Ala Arg Asn Gly Gly Ser Thr Ala Gln Glu Ser Glu Gly Ala
                165                 170                 175

Phe Arg Gln Leu Ala Gln Ala Leu Gly Ser Gly Ala Leu Arg Gly Asp
            180                 185                 190

Glu Phe Asn Ser Ile Met Glu Gln Thr Pro Ala Ile Gly Ile Glu Val
        195                 200                 205

Ala Arg Val Met Gly Ile Asn Ala Gly Gln Leu Arg Glu Met Ala Ala
    210                 215                 220

Glu Gly Lys Leu Thr Gly Asp Ile Val Leu Lys Ala Leu Gln Asn Ile
225                 230                 235                 240

Arg Thr Glu Gly Ala Asp Lys Leu Asp Ala Ser Leu Asn Thr Thr Ser
                245                 250                 255

Ala Asn Val Glu Lys Leu Lys Asn Arg Phe Ile Asp Met Gly Thr Val
            260                 265                 270

Val Gly Ser Gly Val Met Pro Pro Ile Leu Arg Thr Leu Gln Ala Leu
        275                 280                 285

Asn Leu Leu Leu Asp Gln Ala Thr Lys Asn Ala Asp Gly Leu Gly Phe
    290                 295                 300

Ala Leu Gln Gln Ala Met Gly Ile Ala Gly Gly Leu Pro Val Asn Leu
305                 310                 315                 320

Gly Ile Gly Ile Gly Asn Val Ala Gly Arg Ile Pro Gly Gly Arg Gln
                325                 330                 335

Ala Ile Gln Gly Ile Gly Ser Met Leu Gly Tyr Gln Pro Glu Lys Gln
            340                 345                 350

Thr Phe Gly Pro Phe Met Pro Glu Gly Leu Glu Gln Arg Ser Arg Ala
        355                 360                 365

Gln Glu Gln Ala Arg Ile Arg Arg Glu Lys Glu Ala Lys Asp Ala Ala
    370                 375                 380

Thr Lys Ser Arg Ser Arg Gly Gly Gly Ser Ser Gly Pro Asp Phe Pro
385                 390                 395                 400

Ala Tyr Ile Thr Ala Asn Gln Met Arg Asp Trp Leu Arg Ser Gln Gly
                405                 410                 415

Tyr Glu Arg Thr Ser Gly Asp Phe Thr Asn Lys Gly His Arg Thr Pro
            420                 425                 430

Asn His Met Leu Asn Ala Ile Asp Ile Gly Glu Leu Asp Gly Ser Tyr
```

435 440 445

Ala Phe Ala Val Gln Arg Ala Lys Ala Leu Glu Ala Arg Leu Arg Ala
450 455 460

Thr Gly Ala Phe Gly Asn Gln Leu Phe Gly Pro Thr Arg Asp Pro Arg
465 470 475 480

Gly His Lys Asp His Val His Ile Pro Thr Pro Gly Gly Arg Ile Arg
485 490 495

Val Thr Pro Gly Leu Ala Gln Leu Met Gly Leu Asn Gly Lys Gly Ser
500 505 510

Gly Gly Met Ala Met Gln Gly Ala Glu Trp Ala Asn Glu Ala Ala Glu
515 520 525

Lys Glu Ala Glu Arg Gln Gln Lys Arg Glu Asp Gly Leu Arg Thr Ser
530 535 540

Gly Arg Ala Leu Ala Leu Ala Gln Ala Glu Leu Lys Ile Ala Gln Ala
545 550 555 560

Ser Thr Asp Glu Gln Arg Ile Gln Ala Thr Ala Asp Lys Asp Arg Met
565 570 575

Asp Arg Met Tyr Glu Phe Ala Asp Leu Tyr Arg Asp Ala Val Thr Glu
580 585 590

Glu Glu Arg Ala Asn Ile Ala Lys Ala Gln Gly Val Glu Ile Gln Arg
595 600 605

Gln Gln Val Glu Leu Ala Lys Ser Leu Gly Asp Ala Leu Val Glu Val
610 615 620

Ala Arg Lys Gln Glu Ala Ala Met Arg Pro Arg Leu Asp Asn Ile Glu
625 630 635 640

Arg Leu Glu Ala Thr Leu Arg Gly Pro Asp Ala Val Arg Ala Leu Glu
645 650 655

Arg Arg Asn Ala Val Gly Glu Met Ser Ala Ala Gly Val Gly Pro Ala
660 665 670

Arg Ala Gly Glu Leu Tyr Asp Arg Glu Gln Ala Leu Asp Arg Gln Val
675 680 685

Glu Arg Gln Arg Glu Leu Asn Ala Leu Trp Glu Glu Gly Gly Arg Thr
690 695 700

Leu Gly Gly Leu Phe Ser Asp Leu Val Lys Gly Thr Asp Asp Trp Gln
705 710 715 720

Ala Ser Leu Thr Arg Ala Leu Glu Ser Leu Ala Ser Val Leu Leu Gln
725 730 735

Ala Gly Leu Arg Gly Ile Ala Glu Asn Asn Gln Gly Gly Phe Leu Gly
740 745 750

Gly Leu Leu Ser Gln Val Met Gly Ser Phe Asp Gly Gly Gly Tyr Thr
755 760 765

Gly Ser Gly Ser Arg Thr Gly Gly Leu Asp Gly Lys Gly Gly Phe Ala
770 775 780

Ala Ile Leu His Pro Asn Glu Thr Val Val Asp His Thr Arg Gly Gln
785 790 795 800

Ala Ala Gly Gly Gly Met Val Asn Val Gly Gly Ile Thr Val Asn Val
805 810 815

Ala Ser Asp Gly Thr Thr Glu Val Asp Ala Ala Gly Gly Gly Glu Leu
820 825 830

Ala Arg Gly Val Gln Ala Ala Val Thr Ala Glu Ile Leu Arg Gln Met
835 840 845

Arg Pro Gly Gly Val Leu Ala Ala Gly Gln Arg Gly
850 855 860

<210> 370
<211> 247
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 30118 right: 30858 frame: 2 size(aa): 247

<400> 370

Ala Pro Pro Thr Arg Ser Ile Ser Ser Leu Ala Pro Ala Arg Arg Thr
1 5 10 15

Arg Ser Leu Pro Gly Trp Ser Ser Gly Ser Gly Ala Trp Asn Gly Pro
20 25 30

Ala Gly Pro Pro Gly Ala Ala Met Cys Ser Gly Gln Trp Ala Thr Ala
35 40 45

Pro Arg Pro Pro Pro Ala Arg Ser Thr Cys Ser Trp Gly Ala Ser Gly
50 55 60

His Ser Pro Pro Trp Val Trp Ser Pro Pro Pro Gly Pro Trp Leu Thr
65 70 75 80

Arg Ser Cys Arg Trp Gly Cys Arg Pro Arg Thr Pro Arg Cys Gly Ser
85 90 95

Gly Gly Ser Leu Pro Ala Trp Thr Thr Thr Pro Gly Ser Arg Arg Trp
100 105 110

Pro Arg Arg Pro Gln Pro Ser Ser Ala Ser Arg Ser Arg Arg Pro Arg
115 120 125

Pro Ala Ser Arg Arg Pro Thr Pro Asp Ser Ala Pro Trp Ala Ser Pro
130 135 140

Cys Pro Arg Cys Gly Thr Ser Thr Arg Ala Ser Thr Arg Arg Pro Gly
145 150 155 160

```
Thr Ala Ala Arg Arg Pro Arg Arg Ala Arg Ala Pro Ser Gly Ser Trp
                165                 170                 175

Pro Arg Pro Trp Ala Pro Gly Arg Ser Gly Ala Thr Ser Ser Thr Arg
            180                 185                 190

Ser Trp Ser Arg Arg Arg Pro Ser Ala Ser Arg Trp Pro Gly Ser Trp
        195                 200                 205

Ala Ser Thr Pro Gly Ser Cys Ala Arg Trp Arg Pro Arg Ala Ser Ser
    210                 215                 220

Pro Gly Thr Ser Ser Ser Arg Pro Cys Arg Thr Ser Ala Pro Arg Gly
225                 230                 235                 240

Pro Thr Ser Trp Thr Pro Leu
                245
```

<210> 371
<211> 101
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 30128 right: 30430 frame: -3 size(aa): 101

<400> 371

```
Ser Ser Arg Pro Ala Val Ser Pro Arg Thr Arg Thr Ser Val Phe Ser
1               5                   10                  15

Ala Cys Ile Pro Ile Cys Arg Ile Glu Leu Ala Met Ala Pro Ala Val
            20                  25                  30

Ala Thr Thr Pro Arg Ala Ala Asn Ala Arg Arg Pro Pro Thr Ser Met
        35                  40                  45

Ser Ile Leu Pro Val Ala Ala Trp Ala Leu Leu Pro Ile Gly Pro Asn
    50                  55                  60

Thr Ser Arg Pro Pro Ala Val Pro Pro Ala Arg Ser Arg Pro Arg Ser
65                  70                  75                  80

Arg Cys Ser Ile Arg Ala Ser Cys Val Ser Ala Trp Arg Val Pro Lys
                85                  90                  95

Thr Arg Ser Thr Trp
            100
```

<210> 372
<211> 352
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 30356 right: 31411 frame: 3 size(aa): 352

<400> 372

Leu Asp Pro Ala Asp Gly Asp Ala Gly Arg Glu His Arg Gly Ala Gly
1 5 10 15

Pro Gly Ala His Cys Arg Pro Gly Arg Leu Arg Pro Val Pro Gly Gly
20 25 30

Gly Pro Gly Gly Arg Ser Gln Val Arg Pro Leu Ala Ala Gly Gly Pro
35 40 45

Gly Arg Pro Arg Ala Asp Leu Arg Pro Thr Pro Pro Pro Gly Leu His
50 55 60

Pro Val Arg Gly Ala Gly Arg Leu Arg Gly Leu Gln His Gly Gly Pro
65 70 75 80

Glu Arg Arg Leu Asp Gly Pro Gly Glu Arg Gly Arg Leu Pro Ala Ala
85 90 95

Gly Pro Gly Pro Gly Leu Arg Gly Ala Pro Gly Arg Arg Val Gln Leu
100 105 110

Asp His Gly Ala Asp Ala Gly His Arg His Arg Gly Gly Pro Gly His
115 120 125

Gly His Gln Arg Arg Ala Ala Ala Arg Asp Gly Gly Arg Gly Gln Ala
130 135 140

His Arg Gly His Arg Pro Gln Gly Pro Ala Glu His Pro His Arg Gly
145 150 155 160

Gly Arg Gln Ala Gly Arg Leu Ser Glu His Asp Gln Arg Gln Arg Arg
165 170 175

Glu Ala Glu Lys Pro Val His Arg His Gly Asp Gly Arg Gly Val Trp
180 185 190

Arg His Ala Thr Asp Pro Pro Asp Ala Pro Gly Pro Lys Pro Ala Ala
195 200 205

Arg Pro Gly His Gln Glu Cys Arg Arg Pro Gly Leu Arg Pro Ala Ala
210 215 220

Gly His Gly Tyr Arg Arg Gly Ala Pro Gly Gln Pro Gly His Arg His
225 230 235 240

Arg Gln Arg Arg Arg Ser His Pro Arg Gly Pro Pro Gly Asp Pro Gly
245 250 255

Tyr Arg Gln His Ala Arg Leu Pro Ala Arg Glu Thr Asp Leu Arg Pro
260 265 270

Val His Ala Arg Arg Pro Arg Ala Ala Gln Pro Cys Pro Gly Ala Gly
275 280 285

Pro His Pro Glu Gly Glu Gly Gly Gln Gly Arg Cys Tyr Glu Glu Pro
290 295 300

Gln Pro Trp Arg Trp Leu Glu Arg Pro Arg Leu Pro Arg Leu His His
305 310 315 320

Ser Glu Pro Asp Ala Gly Leu Ala Pro Glu Pro Gly Val Arg Ala Asp
325 330 335

Glu Arg Gly Leu His Gln Gln Gly Ala Pro Asp Ala Gln Pro His Ala
340 345 350

<210> 373
<211> 190
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 30572 right: 31141 frame: -3 size(aa): 190

<400> 373

Pro Ser Met Leu Pro Ile Pro Trp Ile Ala Trp Arg Pro Pro Gly Met
1 5 10 15

Arg Pro Ala Thr Leu Pro Met Pro Met Pro Arg Leu Thr Gly Ser Pro
20 25 30

Pro Ala Ile Pro Met Ala Cys Cys Arg Ala Lys Pro Arg Pro Ser Ala
35 40 45

Phe Leu Val Ala Trp Ser Ser Ser Arg Phe Arg Ala Trp Ser Val Arg
50 55 60

Arg Ile Gly Gly Met Thr Pro Asp Pro Thr Thr Val Pro Met Ser Met
65 70 75 80

Asn Arg Phe Phe Ser Phe Ser Thr Leu Ala Leu Val Val Phe Arg Glu
85 90 95

Ala Ser Ser Leu Ser Ala Pro Ser Val Arg Met Phe Cys Arg Ala Leu
100 105 110

Arg Thr Met Ser Pro Val Ser Leu Pro Ser Ala Ala Ile Ser Arg Ser
115 120 125

Cys Pro Ala Leu Met Pro Met Thr Arg Ala Thr Ser Met Pro Met Ala
130 135 140

Gly Val Cys Ser Met Ile Glu Leu Asn Ser Ser Pro Arg Ser Ala Pro
145 150 155 160

Glu Pro Arg Ala Trp Ala Ser Cys Arg Lys Ala Pro Ser Leu Ser Trp
165 170 175

Ala Val Glu Pro Pro Phe Arg Ala Ala Val Leu Lys Pro Ser
180 185 190

<210> 374
<211> 498
<212> PRT
<213> Cyanophage S-2L

<220>

<221> misc_feature
<223> New ORF = left: 30969 right: 32462 frame: -1 size(aa): 498

<400> 374

Asp Arg Gly Glu Ser Ala Leu Ala Val Glu Ala Pro Gly Ala Gly Ser
1 5 10 15

Gly Ala Gly Val Ala Ala Pro Val Glu Arg Thr His His Leu Ala Glu
20 25 30

Gln Thr Ala Gln Glu Pro Ala Leu Val Val Leu Gly Asp Ala Pro Glu
35 40 45

Ala Arg Leu Gln Gln His Arg Arg Gln Arg Phe Glu Arg Pro Gly Glu
50 55 60

Ala Gly Leu Pro Val Val Gly Ala Leu Asp Gln Val Gly Glu Gln Pro
65 70 75 80

Ala Gln Gly Ala Ala Pro Leu Leu Pro Lys Gly Ile Glu Leu Ala Leu
85 90 95

Pro Leu His Leu Thr Val Glu Gly Leu Leu Pro Val Val Glu Leu Ala
100 105 110

Gly Pro Gly Arg Ala His Pro Gly Gly Arg His Leu Ala His Gly Val
115 120 125

Pro Ala Leu Gln Gly Pro His Arg Val Gly Pro Pro Glu Gly Gly Leu
130 135 140

Glu Pro Leu Asp Val Val Glu Pro Gly Ala His Gly Arg Leu Leu Leu
145 150 155 160

Pro Gly His Leu Tyr Gln Gly Val Pro Gln Gly Leu Gly Glu Leu His
165 170 175

Leu Leu Ala Leu Asp Leu Asp Ser Leu Gly Leu Gly Asp Val Gly Pro
180 185 190

Leu Leu Leu Gly Asp Gly Ile Pro Val Gln Val Gly Glu Leu Val His
195 200 205

Ser Val His Pro Val Phe Val Cys Gly Gly Leu Asp Pro Leu Leu Val
210 215 220

Gly Ala Gly Leu Gly Asp Leu Glu Leu Gly Leu Gly Gln Gly Gln Gly
225 230 235 240

Pro Ala Ala Arg Ala Gln Thr Val Leu Pro Leu Leu Leu Ala Leu Gly
245 250 255

Leu Phe Leu Cys Gly Leu Val Cys Pro Leu Gly Pro Leu His Arg His
260 265 270

Pro Ala Ala Ala Leu Ala Val Glu Pro His Gln Leu Gly Gln Pro Arg
275 280 285

Gly Asp Pro Asp Pro Ala Ala Gly Gly Gly Asp Val His Val Val Leu

290 295 300

Val Pro Pro Gly Val Pro Ser Arg Ala Glu Gln Leu Val Ala Glu Arg
305 310 315 320

Pro Gly Arg Pro Gln Ala Gly Leu Glu Arg Leu Ser Pro Leu Asp Gly
325 330 335

Glu Gly Ile Arg Ala Ile Glu Leu Ala Asp Val Asp Gly Val Lys His
340 345 350

Val Val Gly Arg Pro Val Pro Leu Val Gly Glu Val Pro Ala Arg Pro
355 360 365

Leu Val Pro Leu Ala Pro Glu Pro Val Pro His Leu Val Arg Cys Asp
370 375 380

Val Gly Gly Glu Val Gly Ala Ala Arg Ala Thr Ala Thr Ala Ala Ala
385 390 395 400

Leu Arg Ser Ser Val Leu Gly Leu Leu Leu Pro Pro Asp Ala Gly Leu
405 410 415

Leu Leu Gly Thr Ala Ala Leu Leu Glu Ala Phe Trp His Glu Arg Ala
420 425 430

Glu Gly Leu Phe Leu Gly Leu Val Ala Glu His Ala Ala Asp Thr Leu
435 440 445

Asp Arg Leu Ala Ala Pro Gly Asp Ala Thr Gly Asp Val Ala Asp Ala
450 455 460

Asp Ala Gln Val Asp Arg Glu Pro Pro Gly Asp Thr His Gly Leu Leu
465 470 475 480

Gln Gly Glu Ala Gln Ala Val Gly Ile Leu Gly Gly Leu Val Glu Gln
485 490 495

Gln Val

<210> 375
<211> 173
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 30970 right: 31488 frame: 2 size(aa): 173

<400> 375

Thr Cys Cys Ser Thr Arg Pro Pro Arg Met Pro Thr Ala Trp Ala Ser
1 5 10 15

Pro Cys Ser Arg Pro Trp Val Ser Pro Gly Gly Ser Arg Ser Thr Trp
20 25 30

Ala Ser Ala Ser Ala Thr Ser Pro Val Ala Ser Pro Gly Ala Ala Arg
35 40 45

```
Arg Ser Arg Val Ser Ala Ala Cys Ser Ala Thr Ser Pro Arg Asn Arg
    50                  55                  60

Pro Ser Ala Arg Ser Cys Gln Lys Ala Ser Ser Ser Ala Ala Val Pro
65                  70                  75                  80

Arg Ser Arg Pro Ala Ser Gly Gly Arg Arg Arg Pro Arg Thr Leu Leu
                85                  90                  95

Arg Arg Ala Ala Ala Val Ala Val Ala Arg Ala Ala Pro Thr Ser Pro
            100                 105                 110

Pro Thr Ser Gln Arg Thr Arg Cys Gly Thr Gly Ser Gly Ala Arg Gly
        115                 120                 125

Thr Ser Gly Arg Ala Gly Thr Ser Pro Thr Arg Gly Thr Gly Arg Pro
    130                 135                 140

Thr Thr Cys Leu Thr Pro Ser Thr Ser Ala Ser Ser Met Ala Arg Met
145                 150                 155                 160

Pro Ser Pro Ser Ser Gly Leu Arg Arg Ser Arg Pro Ala
                165                 170
```

<210> 376
<211> 54
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 31145 right: 31306 frame: -3 size(aa): 54

<400> 376

```
Ala Gly Lys Ser Gly Pro Leu Glu Pro Pro Pro Arg Leu Arg Leu Phe
1               5                   10                  15

Val Ala Ala Ser Leu Ala Ser Phe Ser Leu Arg Met Arg Ala Cys Ser
            20                  25                  30

Trp Ala Arg Leu Arg Cys Ser Arg Pro Ser Gly Met Asn Gly Pro Lys
        35                  40                  45

Val Cys Phe Ser Gly Trp
    50
```

<210> 377
<211> 275
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 31310 right: 32134 frame: -3 size(aa): 275

<400> 377

```
Ser Ser Pro Ala Leu Ala Gly Pro Thr Pro Ala Ala Asp Ile Ser Pro
1               5                  10                  15

Thr Ala Phe Arg Arg Ser Arg Ala Arg Thr Ala Ser Gly Pro Arg Arg
            20                  25                  30

Val Ala Ser Ser Arg Ser Met Leu Ser Ser Arg Gly Arg Met Ala Ala
        35                  40                  45

Ser Cys Phe Arg Ala Thr Ser Thr Arg Ala Ser Pro Arg Asp Leu Ala
    50                  55                  60

Ser Ser Thr Cys Trp Arg Trp Ile Ser Thr Pro Trp Ala Leu Ala Met
65                  70                  75                  80

Leu Ala Arg Ser Ser Ser Val Thr Ala Ser Leu Tyr Arg Ser Ala Asn
                85                  90                  95

Ser Tyr Ile Arg Ser Ile Arg Ser Leu Ser Ala Val Ala Trp Ile Arg
            100                 105                 110

Cys Ser Ser Val Leu Ala Trp Ala Ile Leu Ser Ser Ala Trp Ala Arg
        115                 120                 125

Ala Arg Ala Arg Pro Leu Val Arg Arg Pro Ser Ser Arg Phe Cys Trp
    130                 135                 140

Arg Ser Ala Ser Phe Ser Ala Ala Ser Phe Ala His Ser Ala Pro Cys
145                 150                 155                 160

Ile Ala Ile Pro Pro Leu Pro Leu Pro Leu Ser Pro Ile Ser Trp Ala
                165                 170                 175

Ser Pro Gly Val Thr Arg Ile Arg Pro Pro Gly Val Gly Met Cys Thr
            180                 185                 190

Trp Ser Leu Cys Pro Arg Gly Ser Arg Val Gly Pro Asn Ser Trp Leu
        195                 200                 205

Pro Asn Ala Pro Val Ala Leu Arg Arg Ala Ser Ser Ala Leu Ala Arg
    210                 215                 220

Trp Thr Ala Lys Ala Tyr Glu Pro Ser Ser Ser Pro Met Ser Met Ala
225                 230                 235                 240

Leu Ser Met Trp Leu Gly Val Arg Cys Pro Leu Leu Val Lys Ser Pro
                245                 250                 255

Leu Val Arg Ser Tyr Pro Trp Leu Arg Ser Gln Ser Arg Ile Trp Phe
            260                 265                 270

Ala Val Met
        275
```

<210> 378
<211> 362
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature

<223> New ORF = left: 31472 right: 32557 frame: 3 size(aa): 362.

<400> 378

Gly Ala Arg Gly Pro Pro Glu Gly Asp Arg Gly Val Arg Gln Pro Ala
1 5 10 15

Val Arg Pro Asp Ser Gly Pro Pro Gly Ala Gln Gly Pro Arg Ala His
20 25 30

Pro His Pro Arg Arg Pro Asp Pro Gly His Pro Gly Ala Gly Pro Ala
35 40 45

Asp Gly Ala Gln Arg Gln Gly Gln Arg Arg Asp Gly Asp Ala Gly Gly
50 55 60

Arg Val Gly Lys Arg Gly Arg Arg Glu Arg Gly Arg Ala Pro Ala Glu
65 70 75 80

Ala Gly Gly Arg Ser Ala His Glu Arg Pro Gly Pro Gly Pro Gly Pro
85 90 95

Gly Arg Ala Gln Asp Arg Pro Gly Gln His Arg Arg Ala Ala Asp Pro
100 105 110

Gly His Arg Arg Gln Arg Pro Asp Gly Pro Asn Val Arg Val Arg Arg
115 120 125

Pro Val Gln Gly Cys Arg His Arg Gly Gly Ala Gly Gln His Arg Gln
130 135 140

Gly Pro Gly Ser Arg Asp Pro Ala Pro Ala Gly Gly Ala Arg Gln Val
145 150 155 160

Pro Gly Gly Arg Pro Gly Arg Gly Gly Pro Glu Ala Gly Gly Gly His
165 170 175

Ala Pro Pro Ala Arg Gln His Arg Ala Ala Arg Gly His Pro Pro Gly
180 185 190

Ala Arg Arg Gly Ala Gly Pro Gly Ala Pro Glu Arg Arg Gly Arg Asp
195 200 205

Val Gly Arg Arg Gly Gly Pro Gly Gln Gly Arg Arg Ala Leu Arg Pro
210 215 220

Gly Ala Gly Pro Arg Pro Ser Gly Gly Ala Ala Thr Arg Ala Gln Cys
225 230 235 240

Pro Leu Gly Gly Gly Gly Pro His Pro Gly Arg Ala Val Leu Arg Pro
245 250 255

Gly Gln Gly His Arg Arg Leu Ala Gly Gln Pro His Pro Gly Ala Arg
260 265 270

Ile Ala Gly Val Gly Ala Ala Ala Gly Gly Pro Pro Gly His Arg Arg
275 280 285

Glu Gln Pro Gly Arg Val Pro Gly Arg Ser Ala Gln Pro Gly Asp Gly
290 295 300

Phe Val Arg Arg Gly Arg Leu His Arg Leu Arg Ile Pro His Arg Gly
305 310 315 320

Pro Arg Arg Gln Gly Arg Ile Arg Arg Asp Pro Thr Pro Glu Arg Asp
325 330 335

Cys Arg Arg Ser His Pro Gly Ala Gly Gly Arg Arg Arg His Gly Gln
340 345 350

Arg Arg Arg Asp His Gly Gln Arg Arg Gln
355 360

<210> 379
<211> 117
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 31618 right: 31968 frame: 2 size(aa): 117

<400> 379

Trp Gly Ser Thr Ala Arg Ala Ala Ala Gly Trp Arg Cys Arg Gly Pro
1 5 10 15

Ser Gly Gln Thr Arg Pro Gln Arg Lys Arg Pro Ser Ala Ser Arg Ser
20 25 30

Gly Arg Thr Val Cys Ala Arg Ala Ala Gly Pro Trp Pro Trp Pro Arg
35 40 45

Pro Ser Ser Arg Ser Pro Arg Pro Ala Pro Thr Ser Ser Gly Ser Arg
50 55 60

Pro Pro Gln Thr Lys Thr Gly Trp Thr Glu Cys Thr Ser Ser Pro Thr
65 70 75 80

Cys Thr Gly Met Pro Ser Pro Arg Arg Ser Gly Pro Thr Ser Pro Arg
85 90 95

Pro Arg Glu Ser Arg Ser Ser Ala Ser Arg Trp Ser Ser Pro Ser Pro
100 105 110

Trp Gly Thr Pro Trp
115

<210> 380
<211> 103
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 31876 right: 32184 frame: -2 size(aa): 103

<400> 380

Ala Arg Val Ala Ala Pro Pro Asp Gly Arg Gly Pro Ala Pro Gly Arg
1 5 10 15

Arg Ala Arg Arg Pro Trp Pro Gly Pro Pro Arg Arg Pro Thr Ser Arg
20 25 30

Pro Arg Arg Ser Gly Ala Pro Gly Pro Ala Pro Arg Arg Ala Pro Gly
35 40 45

Gly Trp Pro Arg Ala Ala Arg Cys Cys Arg Ala Gly Gly Ala Trp Pro
50 55 60

Pro Pro Ala Ser Gly Pro Pro Leu Pro Gly Arg Pro Pro Gly Thr Trp
65 70 75 80

Arg Ala Pro Pro Ala Gly Ala Gly Ser Arg Leu Pro Gly Pro Trp Arg
85 90 95

Cys Trp Pro Ala Pro Pro Arg
100

<210> 381
<211> 135
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 31972 right: 32376 frame: 2 size(aa): 135

<400> 381

Arg Trp Pro Gly Ser Arg Arg Arg Pro Cys Ala Pro Gly Ser Thr Thr
1 5 10 15

Ser Ser Gly Ser Arg Pro Pro Ser Gly Gly Pro Thr Arg Cys Gly Pro
20 25 30

Trp Ser Ala Gly Thr Pro Trp Ala Arg Cys Arg Pro Pro Gly Trp Ala
35 40 45

Arg Pro Gly Pro Ala Ser Ser Thr Thr Gly Ser Arg Pro Ser Thr Val
50 55 60

Arg Trp Ser Gly Asn Ala Ser Ser Met Pro Phe Gly Arg Arg Gly Ala
65 70 75 80

Ala Pro Trp Ala Gly Cys Ser Pro Thr Trp Ser Arg Ala Pro Thr Thr
85 90 95

Gly Arg Pro Ala Ser Pro Gly Arg Ser Asn Arg Trp Arg Arg Cys Cys
100 105 110

Cys Arg Arg Ala Ser Gly Ala Ser Pro Arg Thr Thr Arg Ala Gly Ser
115 120 125

Trp Ala Val Cys Ser Ala Arg
130 135

<210> 382

<211> 79
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 32165 right: 32401 frame: -3 size(aa): 79

<400> 382

Pro Pro Pro Ser Asn Glu Pro Ile Thr Trp Leu Ser Arg Pro Pro Arg
1 5 10 15

Asn Pro Pro Trp Leu Phe Ser Ala Met Pro Arg Arg Pro Ala Cys Ser
20 25 30

Ser Thr Asp Ala Ser Asp Ser Ser Ala Arg Val Arg Leu Ala Cys Gln
35 40 45

Ser Ser Val Pro Leu Thr Arg Ser Glu Asn Ser Pro Pro Arg Val Arg
50 55 60

Pro Pro Ser Ser Gln Arg Ala Leu Ser Ser Arg Cys Arg Ser Thr
65 70 75

<210> 383
<211> 51
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 32371 right: 32523 frame: -2 size(aa): 51

<400> 383

Pro Cys Arg Arg Arg Pro Pro Ala Pro Gly Cys Asp Arg Arg Gln Ser
1 5 10 15

Arg Ser Gly Val Gly Ser Arg Arg Ile Arg Pro Cys Arg Arg Gly Pro
20 25 30

Arg Cys Gly Ile Arg Ser Arg Cys Ser Arg Pro Arg Arg Thr Asn Pro
35 40 45

Ser Pro Gly
50

<210> 384
<211> 65
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 32380 right: 32574 frame: 2 size(aa): 65

<400> 384

```
Trp Val Arg Ser Thr Gly Ala Ala Thr Pro Ala Pro Asp Pro Ala Pro
1               5                  10                  15

Gly Ala Ser Thr Ala Arg Ala Asp Ser Pro Arg Ser Tyr Thr Arg Thr
            20                  25                  30

Arg Leu Ser Ser Ile Thr Pro Gly Gly Arg Arg Pro Ala Ala Ala Trp
        35                  40                  45

Ser Thr Ser Ala Gly Ser Arg Ser Thr Ser Pro Val Thr Gly Pro Pro
    50                  55                  60

Arg
65
```

<210> 385
<211> 148
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 32466 right: 32909 frame: -1 size(aa): 148

<400> 385

```
Thr Pro Ser Ser Ala Ser Trp Ser Arg Ser Ser Pro Ser Ser Leu Ala
1               5                  10                  15

Ser Phe Ser Gly Ser Pro Arg Pro Arg Pro Thr Gly Pro Ala Ala Gly
            20                  25                  30

Thr Ala Pro Gly Ser Ala Arg Pro Arg Ser Pro Thr Ala Trp Ala Ser
        35                  40                  45

Pro Gly Thr Gly Ser Val Arg Cys Trp Pro Gly Asp Thr Gly Glu Pro
    50                  55                  60

Arg Gly Gly Ala Ser Pro Ser Pro Gly Ala Ser Ala Pro Leu Ala Gly
65                  70                  75                  80

Ser Gln Asp Ala Ser Arg Ala His Leu Ala Gln Asp Leu Gly Arg His
                85                  90                  95

Arg Arg Leu Asp Pro Thr Gly Glu Leu Pro Ala Pro Gly Gly Val Tyr
            100                 105                 110

Leu Gly Gly Pro Val Thr Gly Asp Val Asp Arg Asp Pro Ala Asp Val
        115                 120                 125

Asp His Ala Ala Ala Gly Arg Leu Pro Pro Gly Val Ile Asp Asp Ser
    130                 135                 140

Leu Val Arg Val
145
```

<210> 386
<211> 167
<212> PRT

<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 32492 right: 32992 frame: -3 size(aa): 167

<400> 386

Pro Leu Leu Tyr Ala Ile Leu Gly Lys Ser Ala Val Glu His Gly Cys
1 5 10 15

Ser Arg Arg Ser Ser His Ser Ile Ser Ser Asp Glu His His Pro Leu
20 25 30

His Pro Gly His Asp Arg Arg Arg Leu Arg Trp Arg His Ser Leu Gly
35 40 45

His Arg Asp Pro Asp Arg Pro Gly Pro Pro Leu Ala Pro Leu Arg Gly
50 55 60

Gln Pro Gly Gln Asp Arg Arg Pro Pro Gly Arg His Pro Val Pro Gly
65 70 75 80

Pro Ser Asp Ala Gly Pro Val Thr Pro Gly Ser Pro Gly Glu Gly Pro
85 90 95

Leu Leu Pro Arg Gly His Gln Pro Arg Trp Pro Ala Ala Arg Thr Pro
100 105 110

Pro Gly Arg Ile Trp Arg Arg Ile Ser Ala Val Thr Ala Ala Trp Thr
115 120 125

Pro Arg Ala Ser Ser Pro Pro Pro Ala Ala Ser Thr Ser Val Val Pro
130 135 140

Ser Leu Ala Thr Leu Thr Val Ile Pro Pro Thr Leu Thr Met Pro Pro
145 150 155 160

Pro Ala Ala Cys Pro Arg Val
165

<210> 387
<211> 61
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 32548 right: 32730 frame: -2 size(aa): 61

<400> 387

His Arg Gly Ala Pro Gly Arg Gly Leu Ser Phe Pro Gly Gly Ile Ser
1 5 10 15

Pro Ala Gly Arg Gln Pro Gly Arg Leu Pro Gly Ala Ser Gly Ala Gly
20 25 30

Ser Arg Pro Ser Pro Pro Pro Gly Pro His Gly Arg Ala Pro Arg Pro

35 40 45

Arg Arg Arg Leu Pro Arg Trp Ser Arg His Trp Arg Arg
50 55 60

<210> 388
<211> 62
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 32561 right: 32746 frame: 3 size(aa): 62

<400> 388

Arg Asp His Arg Gly Arg Arg Arg Arg Gly Arg Gly Ala Arg Pro Trp
1 5 10 15

Gly Pro Gly Gly Gly Asp Gly Arg Asp Pro Ala Pro Asp Ala Pro Gly
20 25 30

Arg Arg Pro Gly Cys Arg Pro Ala Gly Leu Met Pro Pro Gly Lys Glu
35 40 45

Arg Pro Leu Pro Gly Ala Pro Arg Cys His Arg Ala Ser Ile
50 55 60

<210> 389
<211> 117
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 32626 right: 32976 frame: 2 size(aa): 117

<400> 389

Arg Pro Arg Ser Cys Ala Arg Cys Ala Arg Glu Ala Ser Trp Leu Pro
1 5 10 15

Ala Ser Gly Ala Asp Ala Pro Gly Glu Gly Glu Ala Pro Pro Arg Gly
20 25 30

Ser Pro Val Ser Pro Gly Gln His Leu Thr Asp Pro Val Pro Gly Asp
35 40 45

Ala Gln Ala Val Gly Asp Leu Gly Leu Ala Asp Pro Gly Ala Val Pro
50 55 60

Ala Ala Gly Pro Val Gly Arg Gly Leu Gly Asp Pro Glu Asn Asp Ala
65 70 75 80

Asn Glu Asp Gly Asp Asp Arg Asp Gln Asp Ala Glu Asp Gly Val His
85 90 95

Arg Arg Lys Cys Cys Gly Lys Ser Gly Gly Ser Ile His Ala Arg Pro
100 105 110

Pro Ile Tyr Pro Val
115

<210> 390
<211> 93
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 32734 right: 33012 frame: -2 size(aa): 93

<400> 390

Pro Ala Cys Pro His Gly Ser Arg Phe Cys Met Leu Tyr Trp Val Asn
1 5 10 15

Arg Arg Ser Ser Met Asp Ala Pro Ala Ala Leu Pro Thr Ala Phe Pro
20 25 30

Pro Met Asn Thr Ile Leu Cys Ile Leu Val Thr Ile Val Ala Val Phe
35 40 45

Val Gly Val Ile Leu Trp Val Thr Glu Thr Pro Thr Asp Arg Ala Arg
50 55 60

Arg Trp His Arg Ser Gly Val Ser Gln Ala Lys Ile Ala Asp Arg Leu
65 70 75 80

Gly Val Thr Arg Tyr Arg Val Arg Gln Met Leu Ala Arg
85 90

<210> 391
<211> 90
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 32750 right: 33019 frame: 3 size(aa): 90

<400> 391

Arg Thr Arg Tyr Arg Val Thr Pro Arg Arg Ser Ala Ile Leu Ala Trp
1 5 10 15

Leu Thr Pro Glu Arg Cys Gln Arg Arg Ala Arg Ser Val Gly Val Ser
20 25 30

Val Thr Gln Arg Met Thr Pro Thr Lys Thr Ala Thr Ile Val Thr Arg
35 40 45

Met Gln Arg Met Val Phe Ile Gly Gly Asn Ala Val Gly Arg Ala Ala
50 55 60

Gly Ala Ser Met Leu Asp Arg Arg Phe Thr Gln Tyr Ser Ile Gln Lys
65 70 75 80

Arg Leu Pro Trp Gly His Ala Gly Gln Leu
85 90

<210> 392
<211> 159
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 32889 right: 33365 frame: 1 size(aa): 159

<400> 392

Pro Gly Cys Arg Gly Trp Cys Ser Ser Glu Glu Met Leu Trp Glu Glu
1 5 10 15

Arg Arg Glu His Pro Cys Ser Thr Ala Asp Leu Pro Ser Ile Ala Tyr
20 25 30

Arg Ser Gly Tyr Arg Gly Gly Met Pro Val Ser Cys Asn Ser Gln Ile
35 40 45

Asp Leu Gly Thr Leu Arg Val Gln Val Thr Ala Thr Gly Gln Thr Ser
50 55 60

Gln Arg Ile Leu Ala Val Gln Phe Gly Asp Gly Tyr Arg Glu Arg Arg
65 70 75 80

Pro Asp Gly Ile Asn Thr Glu Val Arg Arg Trp Ser Val Ser Thr Pro
85 90 95

Pro Met Gly Ile Ala Asp Val Leu Glu Leu Glu Asp Ala Leu Arg Ala
100 105 110

Leu Gly Thr Gly Ala Phe Ala Trp Ala Pro Pro Gly Glu Asp Asp Met
115 120 125

Val Leu Trp Glu Leu Asp Pro Val Glu Trp Thr Arg Thr Tyr Gln Ala
130 135 140

Asp His Leu Ala Ser Leu Ser Phe Ala Leu Arg Ser Ala Asn Pro
145 150 155

<210> 393
<211> 156
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 32970 right: 33437 frame: -1 size(aa): 156

<400> 393

Thr Gly Arg Ser Arg His Pro Gly Pro Gly Val Pro Pro Ala Ala Arg
1 5 10 15

Cys Leu Gly Trp Gly Pro Gly Ser Trp Val Gly Arg Ala Gln Gly Lys

20 25 30

Arg Gln Ala Arg Gln Val Val Gly Leu Val Gly Ala Gly Pro Leu Asp
35 40 45

Arg Val Glu Leu Pro Glu His His Val Val Leu Ala Gly Gly Arg Pro
50 55 60

Cys Glu Arg Pro Gly Ala Gln Gly Pro Glu Arg Ile Leu Glu Leu Gln
65 70 75 80

Asp Val Arg Asp Ala His Gly Arg Gly Gly Asp Arg Pro Ala Pro His
85 90 95

Leu Gly Val Asp Ala Ile Gly Ala Ser Leu Pro Val Pro Val Pro Glu
100 105 110

Leu His Arg Lys Asp Ala Leu Gly Arg Leu Pro Arg Ser Gly Asp Leu
115 120 125

His Pro Glu Gly Ala Gln Val Asp Leu Thr Val Thr Ala Asp Arg His
130 135 140

Ala Pro Thr Val Ala Ala Ser Val Cys Tyr Thr Gly
145 150 155

<210> 394
<211> 227
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 32980 right: 33660 frame: 2 size(aa): 227

<400> 394

His Thr Glu Ala Ala Thr Val Gly Ala Cys Arg Ser Ala Val Thr Val
1 5 10 15

Arg Ser Thr Trp Ala Pro Ser Gly Cys Arg Ser Pro Leu Arg Gly Arg
20 25 30

Arg Pro Ser Ala Ser Leu Arg Cys Ser Ser Gly Thr Gly Thr Gly Ser
35 40 45

Asp Ala Pro Met Ala Ser Thr Pro Arg Cys Gly Ala Gly Arg Ser Pro
50 55 60

Pro Arg Pro Trp Ala Ser Arg Thr Ser Trp Ser Ser Arg Met Arg Ser
65 70 75 80

Gly Pro Trp Ala Pro Gly Arg Ser His Gly Arg Pro Pro Ala Arg Thr
85 90 95

Thr Trp Cys Ser Gly Ser Ser Thr Arg Ser Ser Gly Pro Ala Pro Thr
100 105 110

Arg Pro Thr Thr Trp Arg Ala Cys Arg Leu Pro Cys Ala Arg Pro Thr
115 120 125

```
His Glu Pro Gly Pro His Pro Arg His Arg Ala Ala Gly Gly Thr Pro
    130                 135                 140

Gly Pro Gly Cys Arg Asp Arg Pro Val His Pro Arg Pro Val Asp Leu
145                 150                 155                 160

Arg Ser Gly Gln Gly Ala Leu Pro Val Leu Gln Leu Glu Pro Glu Arg
                165                 170                 175

Arg Gly Arg Pro Val Leu Arg Arg Arg Gly Val Arg Ala Asp Ala Gly
            180                 185                 190

Arg Val Tyr Arg Leu Pro Asp Gln Gln Gln Gln Arg Thr Glu Arg Ala
        195                 200                 205

Pro Asp Ala Gly Leu Gln Arg Arg Pro Asp Leu Asp Arg Pro Gly Gln
    210                 215                 220

Arg Leu Gly
225
```

<210> 395
<211> 509
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 33023 right: 34549 frame: 3 size(aa): 509

<400> 395

```
Gln Ser Asp Arg Pro Gly His Pro Pro Gly Ala Gly His Arg Tyr Gly
1               5                   10                  15

Ala Asp Val Pro Ala His Pro Cys Gly Ala Val Arg Gly Arg Val Pro
            20                  25                  30

Gly Ala Thr Pro Arg Trp His Gln His Arg Gly Ala Ala Leu Val Gly
        35                  40                  45

Leu His Pro Ala His Gly His Arg Gly Arg Pro Gly Ala Arg Gly Cys
    50                  55                  60

Ala Pro Gly Pro Gly His Arg Gly Val Arg Met Gly Ala Pro Arg Arg
65                  70                  75                  80

Gly Arg His Gly Ala Leu Gly Ala Arg Pro Gly Arg Val Asp Pro His
                85                  90                  95

Leu Pro Gly Arg Pro Pro Gly Glu Pro Val Val Cys Pro Ala Leu Gly
            100                 105                 110

Gln Pro Met Ser Pro Val Pro Ile Pro Asp Ile Glu Gln Leu Ala Gly
        115                 120                 125

Leu Gln Asp Leu Asp Ala Val Ile Asp Leu Phe Ile Leu Asp Leu Ser
    130                 135                 140
```

```
Ile Phe Asp Pro Gly Arg Ala Pro Tyr Arg Phe Cys Asn Trp Ser Gln
145                 150                 155                 160

Ser Gly Gly Val Gly Leu Phe Tyr Asp Gly Glu Glu Tyr Glu Pro Met
                165                 170                 175

Pro Val Glu Cys Thr Gly Phe Gln Ile Asn Ser Asn Ser Ala Pro Ser
            180                 185                 190

Glu Pro Gln Met Arg Val Ser Asn Val Gly Leu Thr Trp Thr Gly Leu
        195                 200                 205

Val Asn Ala Trp Asp Asp Leu Val Gly Ala Lys Leu Ile Arg Arg Arg
    210                 215                 220

Val Leu Arg Arg Tyr Leu Asp Asp Gly Ala Thr Pro Ser Pro Thr Gly
225                 230                 235                 240

His Trp Pro Asp Glu Pro Trp Phe Ile Glu Arg Lys Val Ala Glu Ser
                245                 250                 255

Lys Leu Thr Val Thr Phe Ala Leu Ser Thr Ala Phe Ala Leu Asp Asp
            260                 265                 270

Val Arg Leu Pro Lys Arg Leu Ala Leu Arg His Thr Cys Ser Trp Thr
        275                 280                 285

Tyr Arg Gly Glu Gly Cys Gly Tyr Thr Gly Tyr Pro Val Ala Asp Ala
    290                 295                 300

Arg Asn Gln Pro Leu Pro Pro Pro Met Asp Pro Ala Leu Gln Ala Phe
305                 310                 315                 320

Tyr Asp Ala Val Ala Leu Phe Arg Ala Gln Thr Pro Val Val Gln Ala
                325                 330                 335

Ala Glu Ala Ala Val Ala Ile Gln Glu Asn Ala Tyr Asn Asn Ser Ile
            340                 345                 350

Glu Asp Ser Trp Ser Arg Leu Thr Thr Gly Tyr Asn Arg Asn Phe Pro
        355                 360                 365

Tyr Ser Phe Val Phe Thr Tyr Pro Thr Gly Ser Leu Gln Ala Leu Phe
    370                 375                 380

Gly Val Asn Leu Ile Tyr Ser Gly Gly Val Leu Ile Pro Ala Leu Asn
385                 390                 395                 400

Gln Thr Trp Arg Arg Gly Ala Ile Arg Ala Gln Asn Phe Asp Gly Ser
                405                 410                 415

Ala Tyr Tyr Glu Ile Glu Gln Trp Gln Phe Asn Pro Gly Asn Arg Ala
            420                 425                 430

Thr Ala Leu Ala Asn Leu Asn Ser Ala Arg Ser Ala Leu Ala Ala Ala
        435                 440                 445

Arg Ala Val Leu Glu Ser Arg Arg Ala Thr Ala Leu Ser Leu Lys Ala
    450                 455                 460

Ala Ala Asp Ala Ile Arg Asp Pro Arg Asp Gln Cys Ser Lys Thr Ile
```

465 470 475 480

Ala Gly Cys Arg Leu Arg Phe Phe Asp Pro Leu Thr Gly Ala Thr Leu
485 490 495

Pro Leu Pro Thr Ser Ala Phe Pro Gly Leu Gln Ile Gly
500 505

<210> 396
<211> 94
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 33029 right: 33310 frame: -3 size(aa): 94

<400> 396

Val Arg Val His Ser Thr Gly Ser Ser Ser Gln Ser Thr Met Ser Ser
1 5 10 15

Ser Pro Gly Gly Ala His Ala Asn Ala Pro Val Pro Arg Ala Arg Ser
20 25 30

Ala Ser Ser Ser Ser Arg Thr Ser Ala Met Pro Met Gly Gly Val Glu
35 40 45

Thr Asp Gln Arg Arg Thr Ser Val Leu Met Pro Ser Gly Arg Arg Ser
50 55 60

Arg Tyr Pro Ser Pro Asn Cys Thr Ala Arg Met Arg Trp Asp Val Cys
65 70 75 80

Pro Val Ala Val Thr Cys Thr Arg Arg Val Pro Arg Ser Ile
85 90

<210> 397
<211> 112
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 33142 right: 33477 frame: -2 size(aa): 112

<400> 397

Gly Ala Leu Pro Gly Ser Lys Ile Asp Arg Ser Arg Met Asn Arg Ser
1 5 10 15

Ile Thr Ala Ser Arg Ser Trp Ser Pro Ala Ser Cys Ser Met Ser Gly
20 25 30

Met Gly Thr Gly Leu Met Gly Trp Pro Ser Ala Gly Gln Thr Thr Gly
35 40 45

Ser Pro Gly Gly Arg Pro Gly Arg Cys Gly Ser Thr Arg Pro Gly Arg
50 55 60

Ala Pro Arg Ala Pro Cys Arg Pro Arg Arg Gly Ala Pro Met Arg Thr
65 70 75 80

Pro Arg Cys Pro Gly Pro Gly Ala His Pro Arg Ala Pro Gly Arg Pro
85 90 95

Arg Cys Pro Trp Ala Gly Trp Arg Pro Thr Ser Ala Ala Pro Arg Cys
100 105 110

<210> 398
<211> 414
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 33314 right: 34555 frame: -3 size(aa): 414

<400> 398

Gly Ser Pro Asp Leu Glu Pro Trp Lys Gly Arg Cys Trp Gln Arg Gln
1 5 10 15

Cys Ser Ala Arg Gln Arg Ile Glu Glu Pro Glu Ala Ala Ala Gly Asp
20 25 30

Arg Leu Thr Ala Leu Val Pro Gly Val Pro Asp Gly Val Gly Arg Arg
35 40 45

Leu Glu Arg Gln Gly Arg Gly Pro Pro Arg Leu Glu His Gly Pro Gly
50 55 60

Ser Arg Gln Gly Arg Pro Gly Arg Val Glu Val Arg Gln Gly Gly Arg
65 70 75 80

Pro Val Ala Arg Ile Glu Leu Pro Leu Leu Asp Leu Val Val Gly Arg
85 90 95

Ala Val Glu Val Leu Gly Pro Asp Gly Ala Pro Pro Pro Gly Leu Val
100 105 110

Gln Gly Gly Asp Gln Asp Ala Pro Gly Val Asp Gln Val Asp Ala Glu
115 120 125

Gln Arg Leu Glu Arg Ala Gly Arg Val Arg Glu Asp Glu Ala Val Gly
130 135 140

Glu Val Ala Val Val Pro Arg Arg Gln Ala Gly Pro Ala Val Leu Asp
145 150 155 160

Ala Val Val Val Gly Val Leu Leu Asn Gly His Cys Ser Leu Gly Arg
165 170 175

Leu Asp Asp Gly Gly Leu Gly Pro Glu Gln Gly His Arg Val Val Glu
180 185 190

Arg Leu Glu Arg Arg Val His Gly Trp Gly Gln Gly Leu Ile Pro Gly
195 200 205

```
Val Gly His Gly Val Pro Gly Val Ala Ala Ser Leu Ala Pro Val Gly
    210                 215                 220

Pro Ala Ala Gly Val Ala Gln Gly Gln Ala Leu Gly Gln Pro Asp Val
225                 230                 235                 240

Val Gln Gly Glu Arg Cys Arg Gln Gly Glu Arg Asp Gly Gln Leu Ala
                245                 250                 255

Leu Gly Asp Leu Ala Leu Asp Glu Pro Arg Leu Val Arg Pro Val Ala
            260                 265                 270

Cys Arg Ala Gly Arg Gly Pro Val Val Glu Val Pro Ala Gln Asp Pro
        275                 280                 285

Pro Pro Asp Gln Leu Arg Pro His Gln Val Ile Pro Gly Val Asp Gln
    290                 295                 300

Ala Gly Pro Gly Gln Ala Asp Val Gly Asp Pro His Leu Gly Leu Ala
305                 310                 315                 320

Arg Cys Ala Val Ala Val Asp Leu Glu Ala Gly Thr Leu Asp Arg His
                325                 330                 335

Arg Leu Val Leu Leu Ala Val Val Glu Gln Ala Asp Pro Ala Ala Leu
            340                 345                 350

Ala Pro Val Ala Glu Pro Val Gly Arg Pro Ala Arg Ile Glu Asp Arg
        355                 360                 365

Gln Val Glu Asp Glu Gln Val Asp His Gly Ile Gln Val Leu Glu Ser
    370                 375                 380

Arg Gln Leu Leu Asp Val Trp Asp Gly Asp Arg Ala His Gly Leu Ala
385                 390                 395                 400

Glu Arg Arg Ala Asn Asp Arg Leu Ala Arg Trp Ser Ala Trp
                405                 410
```

<210> 399
<211> 67
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 33429 right: 33629 frame: 1 size(aa): 67

<400> 399

```
Ser Thr Cys Ser Ser Ser Thr Cys Arg Ser Ser Ile Arg Ala Gly Arg
1               5                   10                  15

Pro Thr Gly Ser Ala Thr Gly Ala Arg Ala Ala Gly Ser Ala Cys Ser
            20                  25                  30

Thr Thr Ala Arg Ser Thr Ser Arg Cys Arg Ser Ser Val Pro Ala Ser
        35                  40                  45

Arg Ser Thr Ala Thr Ala His Arg Ala Ser Pro Arg Cys Gly Ser Pro
```

50 55 60

Thr Ser Ala
65

<210> 400
<211> 120
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 33526 right: 33885 frame: -2 size(aa): 120

<400> 400

Val Gln Leu Gln Val Trp Arg Arg Ala Arg Arg Leu Gly Ser Arg Thr
1 5 10 15

Ser Ser Arg Ala Asn Ala Val Asp Arg Ala Asn Val Thr Val Ser Leu
20 25 30

Leu Ser Ala Thr Leu Arg Ser Met Asn His Gly Ser Ser Gly Gln Trp
35 40 45

Pro Val Gly Leu Gly Val Ala Pro Ser Ser Arg Tyr Arg Arg Arg Thr
50 55 60

Arg Arg Arg Ile Ser Phe Ala Pro Thr Arg Ser Ser Gln Ala Leu Thr
65 70 75 80

Arg Pro Val Gln Val Arg Pro Thr Leu Glu Thr Arg Ile Trp Gly Ser
85 90 95

Leu Gly Ala Leu Leu Leu Leu Ile Trp Lys Pro Val His Ser Thr Gly
100 105 110

Ile Gly Ser Tyr Ser Ser Pro Ser
115 120

<210> 401
<211> 263
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 33664 right: 34452 frame: 2 size(aa): 263

<400> 401

Pro Gly Gly Gly Glu Ala Asp Pro Ala Ala Gly Pro Ala Pro Val Pro
1 5 10 15

Arg Arg Arg Gly His Ala Gln Pro Asp Arg Pro Leu Ala Gly Arg Ala
20 25 30

Val Val His Arg Ala Gln Gly Arg Arg Glu Gln Ala Asp Arg His Val
35 40 45

```
Arg Pro Val Asp Ser Val Arg Pro Gly Arg Arg Pro Ala Ala Gln Ala
    50                  55                  60

Pro Gly Pro Ala Pro His Leu Gln Leu Asp Leu Pro Gly Arg Gly Met
65                  70                  75                  80

Arg Leu His Arg Val Pro Arg Gly Arg Arg Pro Glu Ser Ala Pro Ala
                85                  90                  95

Pro Thr His Gly Pro Gly Ala Pro Ser Val Leu Arg Arg Gly Gly Pro
            100                 105                 110

Val Pro Gly Pro Asp Pro Arg Arg Pro Gly Gly Arg Gly Cys Ser Gly
        115                 120                 125

His Ser Arg Glu Arg Leu Gln Gln Gln His Arg Gly Gln Leu Val Pro
    130                 135                 140

Pro Asp Asp Gly Val Gln Pro Gln Leu Pro Leu Gln Leu Arg Leu His
145                 150                 155                 160

Val Pro Asp Arg Leu Ala Pro Gly Ala Val Arg Arg Gln Pro Asp Leu
                165                 170                 175

Leu Arg Gly Arg Pro Asp Pro Arg Leu Glu Pro Asp Leu Ala Glu Gly
            180                 185                 190

Arg His Pro Gly Pro Lys Leu Arg Arg Leu Gly Leu Leu Arg Asp Arg
        195                 200                 205

Ala Val Ala Val Gln Ser Gly Gln Pro Gly Asp Arg Pro Gly Glu Pro
    210                 215                 220

Gln Leu Cys Pro Val Gly Pro Gly Gly Cys Pro Gly Arg Ala Arg Val
225                 230                 235                 240

Glu Ala Gly His Gly Pro Val Ala Gln Gly Gly Gly Arg Arg His Pro
                245                 250                 255

Gly Pro Pro Gly Pro Val Gln
            260

<210>  402
<211>  100
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 33798 right: 34097 frame: 1 size(aa): 100


<400>  402

Pro Ser Arg Ser Pro Cys Arg Gln Arg Ser Pro Trp Thr Thr Ser Gly
1               5                   10                  15

Cys Pro Ser Ala Trp Pro Cys Ala Thr Pro Ala Ala Gly Pro Thr Gly
            20                  25                  30
```

Ala Arg Asp Ala Ala Thr Pro Gly Thr Pro Trp Pro Thr Pro Gly Ile
35 40 45

Ser Pro Cys Pro His Pro Trp Thr Arg Arg Ser Lys Arg Ser Thr Thr
50 55 60

Arg Trp Pro Cys Ser Gly Pro Arg Pro Pro Ser Ser Arg Arg Pro Arg
65 70 75 80

Leu Gln Trp Pro Phe Lys Arg Thr Pro Thr Thr Thr Ala Ser Arg Thr
85 90 95

Ala Gly Pro Ala
100

<210> 403
<211> 112
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 33804 right: 34139 frame: -1 size(aa): 112

<400> 403

Arg Arg Ser Cys Arg Gly Ser Cys Gly Cys Thr Pro Ser Ser Gly Gly
1 5 10 15

Thr Ser Cys Pro Arg Cys Cys Cys Cys Arg Arg Ser Leu Glu Trp Pro
20 25 30

Leu Gln Pro Arg Pro Pro Gly Arg Arg Gly Ser Gly Pro Gly Thr Gly
35 40 45

Pro Pro Arg Arg Arg Thr Leu Gly Ala Pro Gly Pro Trp Val Gly Ala
50 55 60

Gly Ala Asp Ser Gly Arg Arg Pro Arg Gly Thr Arg Cys Ser Arg Ile
65 70 75 80

Pro Arg Pro Gly Arg Ser Ser Cys Arg Cys Gly Ala Gly Pro Gly Ala
85 90 95

Trp Ala Ala Gly Arg Arg Pro Gly Arg Thr Leu Ser Thr Gly Arg Thr
100 105 110

<210> 404
<211> 91
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 34221 right: 34493 frame: 1 size(aa): 91

<400> 404

Thr Arg Pro Gly Gly Gly Ala Pro Ser Gly Pro Lys Thr Ser Thr Ala

1 5 10 15

Arg Pro Thr Thr Arg Ser Ser Ser Gly Ser Ser Ile Arg Ala Thr Gly
20 25 30

Arg Pro Pro Trp Arg Thr Ser Thr Leu Pro Gly Arg Pro Trp Arg Leu
35 40 45

Pro Gly Pro Cys Ser Ser Arg Gly Gly Pro Arg Pro Cys Arg Ser Arg
50 55 60

Arg Arg Pro Thr Pro Ser Gly Thr Pro Gly Thr Ser Ala Val Arg Arg
65 70 75 80

Ser Pro Ala Ala Ala Ser Gly Ser Ser Ile Arg
85 90

<210> 405
<211> 95
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 34279 right: 34563 frame: -2 size(aa): 95

<400> 405

Cys Gly Lys Asp His Pro Ile Trp Ser Pro Gly Lys Ala Asp Val Gly
1 5 10 15

Asn Gly Asn Val Ala Pro Val Ser Gly Ser Lys Asn Arg Arg Arg Gln
20 25 30

Pro Ala Ile Val Leu Leu His Trp Ser Arg Gly Ser Arg Met Ala Ser
35 40 45

Ala Ala Ala Leu Ser Asp Arg Ala Val Ala Arg Leu Asp Ser Ser Thr
50 55 60

Ala Arg Ala Ala Ala Arg Ala Asp Arg Ala Glu Leu Arg Phe Ala Arg
65 70 75 80

Ala Val Ala Arg Leu Pro Gly Leu Asn Cys His Cys Ser Ile Ser
85 90 95

<210> 406
<211> 271
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 34456 right: 35268 frame: 2 size(aa): 271

<400> 406

Asp Asp Arg Arg Leu Pro Pro Pro Val Leu Arg Ser Ala Asp Gly Arg
1 5 10 15

```
Tyr Ile Ala Val Ala Asn Ile Gly Leu Ser Arg Ala Pro Asp Arg Val
            20                  25                  30

Ile Leu Thr Ala Leu Gln Lys Asn Asp Ile Arg Met Phe Ser Arg Gly
        35                  40                  45

Gly Leu Val Gln Glu Ala Cys Gly Phe Val Leu Gly Asp Gly Arg Val
    50                  55                  60

Val Arg Cys Leu Asn Thr His Pro Glu Pro Glu Asn Ala Phe Gln Ile
65                  70                  75                  80

Asp Pro Glu Ala Tyr Ala Arg Ala Asp Gly Glu His Gly Val Thr Ala
                85                  90                  95

Val Trp His Ser His Ala Arg Leu Asp Gly Phe Ser Pro Glu Asp Gln
            100                 105                 110

Ala Ala Ile Arg Ala Asp Gly Glu Leu Pro Trp Ile Val Tyr Cys Leu
        115                 120                 125

Arg Thr Asp Glu Phe His Val Val Asp Pro Leu Asp His Gly Pro Leu
    130                 135                 140

Val Gly Arg Ser Phe Cys Tyr Gly Ile Leu Asp Cys Tyr Ser Leu Val
145                 150                 155                 160

Arg Asp Ala Leu Glu Glu Arg His Gly Val Ala Phe Pro Glu Trp His
                165                 170                 175

Arg Gly Asn Trp Gly Glu Trp Gly Arg Pro Asp Phe Thr Val Phe Asp
            180                 185                 190

Met Gln Ala Ser Glu Phe Cys Arg Arg Val Gly Arg Glu Arg Leu Leu
        195                 200                 205

Pro Gly Asp Ile Val Phe Met Gly Lys Asp His Thr Ser His Ile Gly
    210                 215                 220

Ile Leu Glu Asp Ser Asp Arg Met Leu His His Leu Ala Gly Arg Arg
225                 230                 235                 240

Ser Arg Val Glu Tyr Tyr Gly Glu Trp Trp Gln Ala Arg Thr Arg Ser
                245                 250                 255

Ile Trp Arg Pro Ala Gly Cys Gln Pro Arg Trp Ala Ala Val Gly
            260                 265                 270
```

<210> 407
<211> 338
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 34497 right: 35510 frame: 1 size(aa): 338

<400> 407

```
Arg Ala Leu His Cys Arg Cys Gln His Arg Pro Phe Gln Gly Ser Arg
1               5                  10                  15

Ser Gly Asp Pro Tyr Arg Thr Thr Glu Glu Arg His Pro Asp Val Gln
            20                  25                  30

Pro Arg Trp Pro Arg Pro Gly Gly Leu Trp Leu Arg Pro Gly Arg Arg
        35                  40                  45

Pro Gly Gly Pro Val Pro Gln His Pro Pro Arg Ala Gly Glu Arg Phe
    50                  55                  60

Pro Asp Arg Pro Gly Gly Leu Arg Pro Gly Arg Arg Gly Ala Trp Gly
65                  70                  75                  80

His Arg Arg Leu Ala Gln Pro Arg Pro Ala Arg Trp Val Gln Pro Gly
                85                  90                  95

Gly Pro Gly Arg His Pro Gly Arg Arg Arg Ala Pro Leu Asp Arg Leu
            100                 105                 110

Leu Pro Ala His Arg Arg Val Ser Arg Arg Gly Pro Pro Arg Pro Arg
        115                 120                 125

Ala Pro Gly Arg Ala Leu Val Leu Leu Arg His Pro Arg Leu Leu Gln
    130                 135                 140

Pro Gly Ala Gly Arg Pro Gly Gly Ala Pro Trp Gly Gly Leu Pro Arg
145                 150                 155                 160

Val Ala Pro Gly Gln Leu Gly Arg Val Gly Ala Pro Arg Leu His Arg
                165                 170                 175

Val Arg His Ala Gly Gln Arg Val Leu Ser Ala Gly Arg Pro Gly Ala
            180                 185                 190

Ala Ala Ala Arg Gly His Arg Leu His Gly Gln Gly Pro His Leu Ala
        195                 200                 205

His Arg Asp Pro Arg Gly Gln Arg Pro His Ala Pro Pro Pro Gly Arg
    210                 215                 220

Gln Ala Glu Pro Gly Arg Val Leu Arg Arg Val Val Ala Gly Pro Asp
225                 230                 235                 240

Pro Phe Asp Leu Ala Ala Gly Gly Met Pro Ala Gln Val Gly Ser Arg
                245                 250                 255

Arg Ile Gly Pro Gln Ser Arg Gly Ala Ala Pro Met Ser Ile Thr Asn
            260                 265                 270

Asp Glu Leu His Thr Arg Phe Thr Tyr His Pro Val Lys Glu Gly Gln
        275                 280                 285

Thr Glu Val Tyr Gln Gln Ile Arg His Lys Ala Arg Glu Leu Ala Glu
    290                 295                 300

Leu Met Leu His Leu Val Pro Glu Gly Arg Glu Gln Ser Thr Ala Leu
305                 310                 315                 320

Thr Lys Val Glu Glu Ala Cys Phe Trp Ala Asn Ala Gly Val Ala Arg
```

325 330 335

Arg Thr

<210> 408
<211> 67
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 34506 right: 34706 frame: -1 size(aa): 67

<400> 408

Ala Ser Gly Ser Ile Trp Lys Ala Phe Ser Gly Ser Gly Trp Val Leu
1 5 10 15

Arg His Arg Thr Thr Arg Pro Ser Pro Arg Thr Lys Pro Gln Ala Ser
20 25 30

Trp Thr Arg Pro Pro Arg Leu Asn Ile Arg Met Ser Phe Phe Cys Ser
35 40 45

Ala Val Arg Ile Thr Arg Ser Gly Ala Leu Glu Arg Pro Met Leu Ala
50 55 60

Thr Ala Met
65

<210> 409
<211> 106
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 34553 right: 34870 frame: 3 size(aa): 106

<400> 409

Ser Leu Pro His Tyr Arg Arg Thr Thr Ser Gly Cys Ser Ala Glu Val
1 5 10 15

Ala Ser Ser Arg Arg Pro Val Ala Ser Ser Trp Ala Thr Ala Gly Trp
20 25 30

Ser Gly Ala Ser Thr Pro Thr Pro Ser Arg Arg Thr Leu Ser Arg Ser
35 40 45

Thr Arg Arg Pro Thr Pro Gly Gln Thr Gly Ser Met Gly Ser Pro Pro
50 55 60

Ser Gly Thr Ala Thr Pro Gly Ser Met Gly Ser Ala Arg Arg Thr Arg
65 70 75 80

Pro Pro Ser Gly Pro Thr Ala Ser Ser Pro Gly Ser Ser Thr Ala Cys
85 90 95

```
Ala Pro Thr Ser Phe Thr Ser Trp Thr Pro
            100                 105

<210>  410
<211>  101
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 34567 right: 34869 frame: -2 size(aa): 101


<400>  410

Gly Val His Asp Val Lys Leu Val Gly Ala Gln Ala Val Asp Asp Pro
1               5                  10                  15

Gly Glu Leu Ala Val Gly Pro Asp Gly Gly Leu Val Leu Arg Ala Glu
            20                  25                  30

Pro Ile Glu Pro Gly Val Ala Val Pro Asp Gly Gly Asp Pro Met Leu
        35                  40                  45

Pro Val Cys Pro Gly Val Gly Leu Arg Val Asp Leu Glu Ser Val Leu
    50                  55                  60

Arg Leu Gly Val Gly Val Glu Ala Pro Asp His Pro Ala Val Ala Gln
65                  70                  75                  80

Asp Glu Ala Thr Gly Leu Leu Asp Glu Ala Thr Ser Ala Glu His Pro
                85                  90                  95

Asp Val Val Leu Leu
            100

<210>  411
<211>  80
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 34778 right: 35017 frame: -3 size(aa): 80


<400>  411

Ser Arg Gly Ala Pro Thr Arg Pro Ser Cys Pro Gly Ala Thr Leu Gly
1               5                  10                  15

Arg Pro Pro His Gly Ala Pro Pro Gly Arg Pro Ala Pro Gly Cys Ser
            20                  25                  30

Ser Arg Gly Cys Arg Ser Arg Thr Ser Ala Arg Pro Gly Ala Arg Gly
        35                  40                  45

Leu Gly Gly Pro Arg Arg Glu Thr Arg Arg Cys Ala Gly Ser Arg Arg
    50                  55                  60
```

Ser Arg Gly Ala Arg Arg Arg Pro Gly Trp Arg Pro Gly Pro Pro Gly
65 70 75 80

<210> 412
<211> 144
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 34873 right: 35304 frame: -2 size(aa): 144

<400> 412

Ser Thr Trp Ala Gln Arg Leu Ala Thr Val Ala Leu Ser Tyr Gly Cys
1 5 10 15

Pro Pro Gly Leu Ala Ser Arg Arg Pro Pro Asp Arg Thr Gly Pro Gly
20 25 30

Leu Pro Pro Leu Ala Val Val Leu Asp Pro Ala Pro Pro Ala Gly Gln
35 40 45

Val Val Glu His Ala Val Ala Val Leu Glu Asp Pro Asp Val Arg Gly
50 55 60

Val Val Leu Ala His Glu Asp Asp Val Pro Gly Gln Gln Pro Leu Pro
65 70 75 80

Ala Tyr Pro Pro Thr Glu Leu Ala Gly Leu His Val Glu His Gly Glu
85 90 95

Val Gly Ala Pro Pro Leu Ala Pro Val Ala Pro Val Pro Leu Trp Glu
100 105 110

Gly His Pro Met Ala Leu Leu Gln Gly Val Pro His Gln Ala Val Ala
115 120 125

Val Glu Asp Ala Val Ala Glu Arg Ala Pro Asp Gln Gly Pro Val Val
130 135 140

<210> 413
<211> 62
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 34874 right: 35059 frame: 3 size(aa): 62

<400> 413

Thr Thr Gly Pro Trp Ser Gly Ala Arg Ser Ala Thr Ala Ser Ser Thr
1 5 10 15

Ala Thr Ala Trp Cys Gly Thr Pro Trp Arg Ser Ala Met Gly Trp Pro
20 25 30

Ser Gln Ser Gly Thr Gly Ala Thr Gly Ala Ser Gly Gly Ala Pro Thr

35 40 45

Ser Pro Cys Ser Thr Cys Arg Pro Ala Ser Ser Val Gly Gly
50 55 60

<210> 414
<211> 88
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 34926 right: 35189 frame: -1 size(aa): 88

<400> 414

Tyr Ser Thr Arg Leu Arg Leu Pro Ala Arg Trp Trp Ser Met Arg Ser
1 5 10 15

Leu Ser Ser Arg Ile Pro Met Cys Glu Val Trp Ser Leu Pro Met Lys
20 25 30

Thr Met Ser Pro Gly Ser Ser Arg Ser Arg Pro Thr Arg Arg Gln Asn
35 40 45

Ser Leu Ala Cys Met Ser Asn Thr Val Lys Ser Gly Arg Pro His Ser
50 55 60

Pro Gln Leu Pro Arg Cys His Ser Gly Lys Ala Thr Pro Trp Arg Ser
65 70 75 80

Ser Arg Ala Ser Arg Thr Arg Leu
85

<210> 415
<211> 67
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 35063 right: 35263 frame: 3 size(aa): 67

<400> 415

Ala Gly Ser Gly Cys Cys Pro Gly Thr Ser Ser Ser Trp Ala Arg Thr
1 5 10 15

Thr Pro Arg Thr Ser Gly Ser Ser Arg Thr Ala Thr Ala Cys Ser Thr
20 25 30

Thr Trp Pro Ala Gly Gly Ala Gly Ser Ser Thr Thr Ala Ser Gly Gly
35 40 45

Arg Pro Gly Pro Val Arg Ser Gly Gly Arg Arg Asp Ala Ser Pro Gly
50 55 60

Gly Gln Pro
65

<210> 416
<211> 79
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 35099 right: 35335 frame: -3 size(aa): 79

<400> 416

Val Asn Arg Val Trp Ser Ser Ser Leu Val Ile Asp Met Gly Ala Ala
1 5 10 15

Pro Arg Asp Cys Gly Pro Ile Leu Arg Leu Pro Thr Trp Ala Gly Ile
20 25 30

Pro Pro Ala Ala Arg Ser Asn Gly Ser Gly Pro Ala Thr Thr Arg Arg
35 40 45

Ser Thr Arg Pro Gly Ser Ala Cys Arg Pro Gly Gly Gly Ala Cys Gly
50 55 60

Arg Cys Pro Arg Gly Ser Arg Cys Ala Arg Cys Gly Pro Cys Pro
65 70 75

<210> 417
<211> 112
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 35193 right: 35528 frame: -1 size(aa): 112

<400> 417

Arg Trp Phe Ile Cys Ser Gly Ala Ala Gly Asp Ala Gly Ile Gly Pro
1 5 10 15

Glu Ala Gly Leu Leu Asp Leu Gly Gln Gly Ser Arg Leu Leu Pro Pro
20 25 30

Leu Gly His Gln Val Glu His Glu Leu Gly Glu Leu Pro Gly Leu Val
35 40 45

Pro Asp Leu Leu Val Asp Phe Arg Leu Pro Leu Leu Asp Gly Val Val
50 55 60

Gly Glu Pro Gly Val Glu Leu Val Val Gly Asp Arg His Gly Arg Ser
65 70 75 80

Ala Ser Arg Leu Trp Pro Tyr Pro Thr Ala Ala His Leu Gly Trp His
85 90 95

Pro Ala Gly Arg Gln Ile Glu Arg Val Arg Ala Cys His His Ser Pro
100 105 110

<210> 418
<211> 84
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 35267 right: 35518 frame: 3 size(aa): 84

<400> 418

Asp Arg Ala Thr Val Ala Arg Arg Cys Ala His Val Asp His Gln Arg
1 5 10 15

Arg Ala Pro His Pro Val His Leu Pro Pro Arg Gln Gly Gly Ala Asp
20 25 30

Gly Ser Leu Pro Ala Asp Pro Ala Gln Gly Pro Gly Ala Arg Arg Ala
35 40 45

His Ala Pro Pro Gly Ala Arg Gly Ala Gly Ala Val Asp Cys Pro Asp
50 55 60

Gln Gly Arg Gly Gly Leu Leu Leu Gly Gln Cys Arg Arg Arg Pro Pro
65 70 75 80

His Leu Ser Arg

<210> 419
<211> 61
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 35272 right: 35454 frame: 2 size(aa): 61

<400> 419

Gly His Ser Arg Glu Ala Leu Arg Pro Cys Arg Ser Pro Thr Thr Ser
1 5 10 15

Ser Thr Pro Gly Ser Pro Thr Thr Pro Ser Arg Arg Gly Arg Arg Lys
20 25 30

Ser Thr Ser Arg Ser Gly Thr Arg Pro Gly Ser Ser Pro Ser Ser Cys
35 40 45

Ser Thr Trp Cys Pro Arg Gly Gly Ser Ser Arg Leu Pro
50 55 60

<210> 420
<211> 54
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature

<223> New ORF = left: 35372 right: 35533 frame: -3 size(aa): 54

<400> 420

Arg Ser Ala Gly Ser Ser Ala Gln Val Arg Arg Ala Thr Pro Ala Leu
1 5 10 15

Ala Gln Lys Gln Ala Ser Ser Thr Leu Val Arg Ala Val Asp Cys Ser
20 25 30

Arg Pro Ser Gly Thr Arg Trp Ser Met Ser Ser Ala Ser Ser Arg Ala
35 40 45

Leu Cys Arg Ile Cys Trp
50

<210> 421
<211> 253
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 35413 right: 36171 frame: -2 size(aa): 253

<400> 421

Ala Ser Tyr Glu Leu Pro Arg Asn Glu Ala Gln Glu Thr Pro Gly Ala
1 5 10 15

Ala His Val Asp Arg Ala Ala Asp Arg Gln Val Ala Gln Gly Glu Ala
20 25 30

Asp His Glu Arg Val Leu Asp Pro Pro Glu Ala Val Asp His Arg Asp
35 40 45

Arg Ala Pro Leu Ala Pro Arg Ala Gly Gly Val Ala Val Glu Ala Arg
50 55 60

Leu Gln Leu Leu Gly Val Gly Ile Asp Arg Arg Pro Gly Arg Pro Gly
65 70 75 80

Glu Glu Ala Ser Asp Ala Pro Gln His Gln Gly Thr Ala Gly Gln Gln
85 90 95

Gln Ala Arg Gly Arg Gln Ala Gln Glu Ala Asp Ala Pro Gly Glu Arg
100 105 110

Ala Gln Gly Asp Lys Arg Asp Ala Gly Gln Asp Pro Pro Glu Ala Ala
115 120 125

Thr Ala Gly Gln Asp Arg Gly Lys His Gln Arg Leu Pro Gly Asp Ala
130 135 140

Arg Leu Gly Pro Val Leu Val Gln Ala Pro Gly Ile Val Arg His Asp
145 150 155 160

Pro Pro Ala Asp Ala Pro Pro Gly Leu Leu Asp His Pro Gly Pro Glu
165 170 175

```
Gly Arg Val Gln Gly Ala Glu Gly Pro Asp Arg Leu Gly Arg Arg Leu
            180                 185                 190

Asn Asp Lys Pro Val Asp Ala Ala Glu Leu Ser Ala Glu Gly Ala Gln
        195                 200                 205

Glu Leu Asp Arg Asp Val Ala Leu Val His Leu Leu Arg Cys Gly Gly
    210                 215                 220

Arg Arg Arg His Trp Pro Arg Ser Arg Pro Pro Arg Pro Trp Ser Gly
225                 230                 235                 240

Gln Ser Thr Ala Pro Ala Pro Arg Ala Pro Gly Gly Ala
                245                 250
```

<210> 422
<211> 236
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 35458 right: 36165 frame: 2 size(aa): 236

<400> 422

```
Pro Arg Ser Arg Arg Pro Ala Ser Gly Pro Met Pro Ala Ser Pro Ala
1               5                   10                  15

Ala Pro Glu Gln Met Asn Gln Arg Tyr Val Thr Ile Lys Leu Leu Gly
            20                  25                  30

Ala Phe Gly Arg Glu Phe Gly Arg Ile His Arg Leu Val Val Glu Thr
        35                  40                  45

Pro Ala Glu Ala Val Arg Ala Leu Cys Thr Leu Tyr Pro Ala Phe Arg
    50                  55                  60

Pro Arg Val Ile Glu Gln Ala Gly Arg Gly Ile Gly Trp Arg Ile Val
65                  70                  75                  80

Thr Asp Asp Pro Arg Gly Leu Asp Glu Asp Arg Ala Gln Ala Gly Ile
                85                  90                  95

Pro Gly Gln Thr Leu Val Phe Ala Pro Ile Leu Thr Gly Arg Gly Gly
            100                 105                 110

Phe Gly Arg Ile Leu Ala Gly Val Ala Phe Ile Ala Leu Gly Ala Phe
        115                 120                 125

Thr Gly Gly Ile Gly Phe Leu Gly Leu Ser Ser Ser Ser Leu Leu Leu
    130                 135                 140

Thr Gly Gly Ala Leu Val Leu Gly Gly Val Ala Gly Leu Leu Thr Arg
145                 150                 155                 160

Thr Pro Arg Ala Pro Val Asp Ala Asp Thr Lys Gln Leu Glu Ser Ser
                165                 170                 175
```

```
Leu Tyr Ser Asn Ala Ala Gly Thr Gly Gly Gln Gly Ser Pro Val Pro
            180                 185                 190

Val Ile Tyr Gly Leu Arg Arg Val Glu Asn Pro Leu Val Ile Ser Phe
        195                 200                 205

Ser Leu Gly Asn Leu Pro Ile Ser Arg Pro Ile Asn Val Ser Gly Ser
    210                 215                 220

Arg Gly Leu Leu Gly Leu Val Ala Gly Gln Phe Val
225                 230                 235

<210>  423
<211>  152
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 35532 right: 35987 frame: -1 size(aa): 152


<400>  423

Arg Leu Asp Ser Ser Cys Leu Val Ser Ala Ser Thr Gly Ala Arg Gly
1               5                   10                  15

Val Leu Val Arg Arg Pro Ala Thr Pro Pro Ser Thr Arg Ala Pro Pro
            20                  25                  30

Val Ser Ser Arg Leu Glu Asp Asp Arg Pro Arg Lys Pro Met Pro Pro
        35                  40                  45

Val Asn Ala Pro Arg Ala Ile Asn Ala Thr Pro Ala Arg Ile Arg Pro
    50                  55                  60

Lys Pro Pro Arg Pro Val Arg Ile Gly Ala Asn Thr Ser Val Cys Pro
65                  70                  75                  80

Gly Met Pro Ala Trp Ala Arg Ser Ser Ser Arg Pro Arg Gly Ser Ser
                85                  90                  95

Val Thr Ile Arg Gln Pro Met Pro Arg Pro Ala Cys Ser Ile Thr Arg
            100                 105                 110

Gly Arg Lys Ala Gly Tyr Arg Val Gln Arg Ala Arg Thr Ala Ser Ala
        115                 120                 125

Gly Val Ser Thr Thr Ser Arg Trp Met Arg Pro Asn Ser Arg Pro Lys
    130                 135                 140

Ala Pro Arg Ser Leu Ile Val Thr
145                 150

<210>  424
<211>  93
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
```

<223> New ORF = left: 35543 right: 35821 frame: -3 size(aa): 93

<400> 424

Thr Arg Arg Arg Pro Gly Ser Ala Arg Ser Arg His Gly Arg Ser Gly
1 5 10 15

Ser Gly Gln Thr Pro Ala Ser Ala Arg Gly Cys Pro Pro Gly Pro Gly
20 25 30

Pro Arg Pro Gly Pro Gly Asp Arg Pro Ser Arg Ser Ala Ser Arg Cys
35 40 45

Pro Ala Arg Pro Ala Arg Ser Pro Gly Ala Gly Arg Pro Gly Thr Gly
50 55 60

Cys Arg Gly Pro Gly Pro Pro Arg Pro Ala Ser Gln Arg Gln Ala Gly
65 70 75 80

Gly Cys Gly Arg Thr Leu Gly Arg Arg Arg Pro Gly Ala
85 90

<210> 425
<211> 1456
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 35598 right: 39965 frame: 1 size(aa): 1456

<400> 425

Asp Ala Gly Arg Gly Gly Pro Gly Pro Leu His Pro Val Pro Gly Leu
1 5 10 15

Pro Ala Pro Gly Asp Arg Ala Gly Arg Ala Gly His Arg Leu Ala Asp
20 25 30

Arg Asp Gly Arg Ser Pro Gly Pro Gly Arg Gly Pro Gly Pro Gly Gly
35 40 45

His Pro Arg Ala Asp Ala Gly Val Cys Pro Asp Pro Asp Arg Pro Trp
50 55 60

Arg Leu Arg Ala Asp Pro Gly Arg Arg Arg Val Tyr Arg Pro Gly Arg
65 70 75 80

Val His Arg Gly His Arg Leu Pro Gly Pro Val Val Leu Glu Pro Ala
85 90 95

Ala Asp Arg Arg Cys Pro Gly Ala Gly Gly Arg Arg Trp Pro Pro His
100 105 110

Gln Asp Ala Pro Gly Ala Gly Arg Cys Arg His Gln Ala Ala Gly Val
115 120 125

Glu Pro Leu Gln Gln Arg Arg Arg His Gly Gly Pro Gly Glu Pro Gly
130 135 140

```
Pro Gly Asp Leu Arg Pro Pro Ala Gly Arg Glu Pro Ala Arg Asp Gln
145                 150                 155                 160

Leu Leu Leu Gly Gln Pro Ala Asp Gln Pro Pro Asp Gln Arg Glu Arg
                165                 170                 175

Leu Pro Gly Ser Pro Gly Pro Arg Cys Gly Ala Val Arg Met Lys Leu
            180                 185                 190

Ile Ser Gly Ala Gly Gly Ile Gly Gly Gly Gly Thr Lys Lys Pro Arg
        195                 200                 205

Ala Pro Ile Thr Ser Pro Asp Ser Ala Phe Leu Arg Ser Ile Ser Phe
    210                 215                 220

Ala Gln Met Gln Phe Leu Leu Cys Glu Gly Pro Ile Trp Gly Pro Lys
225                 230                 235                 240

Glu Gly Arg Ser Trp Gly Gly Leu Leu Ala Ser Thr Tyr Leu Asp Asp
                245                 250                 255

Thr Pro Leu Ser Val Arg Gly Leu Gly Gly Thr Val Pro Val Glu Asp
            260                 265                 270

Leu Val Leu Ser Tyr Gly Thr Phe Asp Gln Thr Ala Val Pro Gly Tyr
        275                 280                 285

Gly Val Gln Trp Asn Thr Ile Gly Val Gly Gln Ser Val Lys Ala Ser
    290                 295                 300

Phe Pro Val Phe Ala Thr Ala Met Pro Ser Asp Pro Thr Thr Gln His
305                 310                 315                 320

Arg Ala Arg Val Val Leu Thr Trp Glu Ala Leu Leu Val Ala Phe Lys
                325                 330                 335

Gln Thr Gly Asp Val Val Glu Ala Gln Val Pro Tyr Leu Ile Asp Tyr
            340                 345                 350

Thr Asp Ala Asn Gly Val Val Arg Leu Val Phe Ala Gly Phe Thr Phe
        355                 360                 365

Gly Lys Phe Ser Gly Pro Phe Gln Arg Glu His Glu Trp Asp Leu Ala
    370                 375                 380

Gly Pro Gly Pro Trp Val Val Arg Val Met Arg Met Ala Ala Asp Asp
385                 390                 395                 400

Asp Ala Leu Glu Thr Pro Ile Ala Ser Phe Arg Ser Ala Phe Ser Phe
                405                 410                 415

Thr Asn Leu Ser Phe Gly Pro Val Leu Ser Leu Gly Arg Arg Tyr Ser
            420                 425                 430

Ala Thr Leu Thr Leu Ala Ala Arg Ala Asp Arg Tyr Ser Asn Leu Pro
        435                 440                 445

Ala Val Ala Ile Asp Leu Tyr Gly Lys Ile Cys Lys Val Pro Thr Asn
    450                 455                 460
```

Tyr Asp Pro Trp Ala Gly Thr Tyr Ser Gly Val Trp Asp Gly Ser Phe
465 470 475 480

Lys Glu Asp Trp Thr Asp Asn Pro Ala Trp Cys Phe Tyr Asp Met Val
485 490 495

Thr Asn Pro Arg Tyr Gly Leu Gly Glu Ser Ile Asp Pro Val Leu Ile
500 505 510

Asp Lys Trp Ser Leu Tyr Ser Ile Gly Gln Tyr Cys Asp Gly Leu Val
515 520 525

Pro Ala Val Gly Gly Gly Leu Glu Arg Arg Phe Arg Cys Asn Leu Ile
530 535 540

Leu Ala Ala Gln Asn Asp Ala Trp Val Val Leu Gln Gln Leu Ala Ser
545 550 555 560

Ile Phe Arg Gly Gln Ile Phe Trp Ser Ala Gly Leu Val Val Ser Thr
565 570 575

Gln Asp Ala Pro Gly Asp Phe Leu Tyr Thr Phe Asn Pro Ser Asn Val
580 585 590

Glu Gln Thr Val Asp Asp Ser Gly Ala Val Val Gln Pro Cys Phe Glu
595 600 605

Tyr Glu Gly Thr Ala Lys Arg Thr Arg His Thr Val Cys Leu Val Ser
610 615 620

Trp Asp Asp Pro Ala Asn Ala Tyr Gln Pro Arg Val Glu Tyr Ile Ala
625 630 635 640

Asp Ser Asp Ala Leu Ala Arg Leu Gly Tyr Arg Pro Leu Glu Leu Arg
645 650 655

Leu Asn Gly Ile Thr Thr Arg Gly Gln Ala Leu Arg Thr Ala Gln Trp
660 665 670

Ala Leu Leu Ser Glu Ala Ile Leu Asp Asp Thr Val Thr Phe Lys Val
675 680 685

Gly Ala Ile Gly Met Ala Leu Arg Pro Gly Asp Leu Val Lys Val Met
690 695 700

Asp Pro Asp Lys Gly Gly Val Arg Phe Gly Gly Arg Val Val Ala Gln
705 710 715 720

Asp Gly Asp Thr Ile Thr Leu Asp Ala Ala Pro Pro Thr Pro Leu Ala
725 730 735

Gly Trp Ala Gly Gly Leu Phe Tyr Trp Gln Ser Gly Ala Gly Leu Pro
740 745 750

Arg Val Asn Val Ala Gly Val Ser Gly Ala Val Val Thr Val Ser Gly
755 760 765

Trp Gly Asp Asp Ser Arg Pro Thr Pro Gly Met Pro Trp Leu Leu Glu
770 775 780

Val Pro Asn Leu Glu Ala Gln Pro Phe Arg Ile Leu Gly Ile Glu Glu

785 790 795 800

Leu Gly Gln Asn Arg Tyr Ala Val Thr Ala Leu Arg Tyr Arg Ser Asp
805 810 815

Ile Tyr Asp Arg Val Asp Phe Asp Thr Pro Leu Ser Asp Asp Glu Asp
820 825 830

Tyr Leu Phe Lys Leu Leu Asp Pro Leu Pro Pro Thr Ile Leu Asn Ala
835 840 845

Gln Ile Val Trp Asp Asn Ser Gln Ala Lys Leu Glu Val Asn Trp Arg
850 855 860

Pro Gln Asp Arg Val Phe Val Asp Gly Gly Phe Asp Leu Ser Thr Ser
865 870 875 880

Tyr His Arg Leu Gln Tyr Gln Arg Gly Glu Val Gly Ala Gly Gly Glu
885 890 895

Val Thr Trp Thr Asn Gln Trp Ala Glu Val Asp Arg Gln Thr Asp Thr
900 905 910

Thr Glu Thr Ile Pro Leu Val Gly Tyr Gln Ala Gln Thr Arg Tyr Lys
915 920 925

Val Arg Met Ala Ser Val Gly Lys Ala Gly Ala Glu Ser Leu Trp Ser
930 935 940

Ala Glu Leu Glu Ala Thr Pro Leu Glu Val Trp Phe Pro Ile Pro Asp
945 950 955 960

Phe Glu Ser Ile Val Pro His Pro Gly Gly Glu Thr Gly Pro Ala Gly
965 970 975

Val Leu Ser His Thr Asn Leu Ala Thr Gly Gly His Leu Trp Thr Trp
980 985 990

Lys Ile Phe Thr Gln Val Pro Pro Tyr Ala Arg Ser Ile Glu Val Trp
995 1000 1005

Gly Arg Pro Val Gly Val Pro Leu Pro Asp Gly Val Thr Thr Asp
1010 1015 1020

Glu Asp Gly Tyr Ile Leu Leu Gly Thr Ala Ala Pro Asn Ala Gly
1025 1030 1035

Val Glu Ala Leu Leu Pro Val Ala Ala Thr Trp Asp Val Arg Ala
1040 1045 1050

Arg Leu Thr Thr Phe Val Pro Gly Leu Glu Gly Arg Ser Phe Met
1055 1060 1065

Leu Asp Met Val Asp Arg Leu Glu Ile Val Pro Pro Thr Pro Thr
1070 1075 1080

Glu Phe Arg Leu Val Thr Glu Gln Asp Gly Gln Ser Arg Met Gly
1085 1090 1095

Ser Arg Arg Phe Ser Trp Leu Met Pro Asp Pro Pro Pro Phe Ala
1100 1105 1110

```
Glu Arg  Trp Gly Gly Gly Leu  Val Ser Asp Ile Ala  Gly Phe Glu
    1115                 1120                 1125

Val Arg  Tyr Arg Ser Gly Val  Asp Val Gly Trp Glu  Gly Ala Phe
    1130                 1135                 1140

Pro Leu  Leu Ser Asp Gly Val  Pro Gly Asp Thr Phe  Trp Phe Glu
    1145                 1150                 1155

Thr His  Leu Met Asp Tyr Gly  Thr Phe Thr Val Met  Leu Arg Ala
    1160                 1165                 1170

Arg Asp  Arg Thr Gly Trp Val  Ser Asp Glu Met Ala  Val Val Thr
    1175                 1180                 1185

Val Gly  Ile Gly Gln Pro Leu  Pro Thr Asn Val Leu  Thr Leu Leu
    1190                 1195                 1200

Asp Leu  Ser Leu Glu Gly Trp  Pro Gly Asp Leu Ala  Asn Gly Thr
    1205                 1210                 1215

Val Val  Gly Ser Thr Ser Pro  Leu Phe Tyr Phe Pro  Pro Thr Thr
    1220                 1225                 1230

Glu Asp  Leu Tyr Glu Ala Pro  Leu Glu Glu Ala Ile  Tyr Ser Gly
    1235                 1240                 1245

Arg Ser  Gly Gly Glu Leu Val  Gln Asn Asp Pro Ala  Gln Pro Met
    1250                 1255                 1260

Val Tyr  Arg Ala Leu Leu Glu  Val Glu Val Asp Gly  Ser Ala Leu
    1265                 1270                 1275

Leu Ile  Tyr Thr Glu Ser Asp  Thr Gly Ser Tyr Arg  Trp Arg Leu
    1280                 1285                 1290

Glu Asp  Ile Ser Thr Val Gly  Leu Gly Leu Arg Tyr  Val Ala Pro
    1295                 1300                 1305

Thr Thr  Asp Pro Met Tyr Asp  Val Ala Glu Glu Ala  Pro Phe His
    1310                 1315                 1320

Leu Gly  Glu Phe Leu Ser Gly  Gly Ala Gly Leu His  Pro Tyr Ala
    1325                 1330                 1335

Pro His  Gln Lys Leu Thr Ala  Gly Leu Trp Gln Ile  Ser Leu Glu
    1340                 1345                 1350

Ala Ile  Ala Ser Thr Thr Asn  Val Pro Ala Arg Ile  Gln Asp Val
    1355                 1360                 1365

Asp Val  Val Leu Asp Val Pro  Asp Val Val Trp Thr  Ile Glu Asp
    1370                 1375                 1380

Tyr Glu  Ala Gly Val Gly Val  Thr Ser Val Pro Leu  Pro Pro Gly
    1385                 1390                 1395

Leu Phe  Arg Arg Val Lys Ala  Val Ser Met Ala Val  Gln Asp Asp
    1400                 1405                 1410
```

```
Thr Val  Ala Ala Gly Val Ala  Val Gly Gly Arg Ile  Val Tyr Lys
    1415                 1420                 1425

Gly Thr  Asp Arg Ile Asp Leu  Arg Thr Val Asp Ala  Ser Gly Ala
    1430                 1435                 1440

Asp Thr  Ala Ala Leu Val Asp  Leu Ile Val Val Gly  Tyr
    1445                 1450                 1455
```

<210> 426
<211> 602
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 36042 right: 37847 frame: -1 size(aa): 602

<400> 426

```
Pro Gly Pro Arg Leu Pro Ile Glu Gln Pro Ser Arg Pro Ala Gly Glu
1               5                  10                  15

Gly Cys Arg Gly Cys Arg Val Glu Arg Asp Arg Val Ala Val Leu Gly
            20                  25                  30

Asn His Pro Thr Ala Glu Ala Asp Pro Ala Leu Val Arg Val His Asp
        35                  40                  45

Leu Asp Lys Ile Pro Arg Ala Gln Gly His Ala Asp Gly Ala His Leu
    50                  55                  60

Glu Arg His Arg Val Val Gln Asp Arg Leu Arg Gln Glu Arg Pro Leu
65                  70                  75                  80

Gly Arg Pro Gln Gly Leu Pro Pro Gly Gly Asp Ala Val Glu Pro Glu
                85                  90                  95

Leu Gln Arg Pro Val Ala Lys Ala Gly Gln Gly Ile Ala Val Arg Asp
            100                 105                 110

Val Leu His Pro Gly Leu Val Gly Val Gly Arg Val Val Pro Gly Asp
        115                 120                 125

Gln Thr Asp Gly Val Pro Gly Ala Phe Gly Arg Ala Leu Ile Leu Glu
    130                 135                 140

Ala Gly Leu Asp Asp Arg Ala Arg Val Val Asp Gly Leu Leu Asp Val
145                 150                 155                 160

Gly Trp Val Glu Arg Val Gln Glu Val Pro Gly Gly Val Leu Gly Ala
                165                 170                 175

Asp His Gln Ala Gly Thr Pro Lys Asp Leu Pro Pro Glu Asp Arg Arg
            180                 185                 190

Gln Leu Leu Glu Asp His Pro Gly Val Val Leu Gly Gly Gln Asp Gln
        195                 200                 205

Val Ala Pro Lys Pro Pro Leu Gln Pro Pro Ala Asp Gly Gly His Gln
```

210 215 220

Ala Val Ala Val Leu Ala Asp Gly Ile Glu Gly Pro Leu Val Asp Gln
225 230 235 240

His Arg Ile Asp Arg Leu Ala Gln Ala Val Pro Gly Val Arg His His
245 250 255

Val Val Glu Ala Pro Gly Gly Val Val Gly Pro Val Leu Leu Glu Ala
260 265 270

Pro Val Pro His Pro Ala Val Gly Ala Gly Pro Gly Val Val Val Arg
275 280 285

Gly Tyr Leu Ala Asp Leu Ala Val Gln Val Asp Gly Asp Arg Arg Gln
290 295 300

Val Gly Val Pro Val Arg Pro Gly Gly Gln Gly Glu Arg Gly Thr Val
305 310 315 320

Pro Ala Pro Gln Arg Gln His Arg Ala Lys Ala Glu Ile Arg Glu Ala
325 330 335

Glu Arg Arg Ala Glu Arg Arg Asp Arg Arg Phe Glu Gly Val Val Val
340 345 350

Cys Gly His Pro His Asp Pro Asp His Pro Gly Pro Arg Ala Gly Gln
355 360 365

Val Pro Phe Val Leu Pro Leu Glu Arg Pro Ala Glu Leu Ala Glu Gly
370 375 380

Glu Ala Gly Glu His Glu Ser Asp Asp Pro Val Gly Val Gly Val Val
385 390 395 400

Asp Gln Val Arg His Leu Gly Leu Asp Asp Val Ala Arg Leu Leu Glu
405 410 415

Arg Asp Glu Gln Arg Leu Pro Gly Glu Asp His Pro Gly Pro Val Leu
420 425 430

Gly Gly Arg Val Ala Gly His Arg Arg Gly Glu His Arg Glu Arg Cys
435 440 445

Leu Asp Gly Leu Ala Asp Pro Asp Gly Val Pro Leu Asp Pro Val Pro
450 455 460

Arg Asp Arg Arg Leu Val Glu Gly Ala Val Ala Gln His Gln Val Phe
465 470 475 480

Tyr Gly His Arg Ala Ala Gln Ala Pro Asp Gly Gln Arg Gly Val Val
485 490 495

Gln Val Gly Ala Gly Gln Glu Ala Ala Pro Ala Ala Pro Leu Leu Arg
500 505 510

Pro Pro Asp Arg Pro Leu Ala Gln Glu Glu Leu His Leu Gly Glu Ala
515 520 525

Asp Arg Ala Gln Glu Gly Ala Val Arg Ala Gly Asp Gly Arg Pro Gly
530 535 540

Leu Leu Gly Pro Ala Ala Ala Asp Ala Ala Gly Ser Arg Asp Glu Leu
545 550 555 560

His Thr Asn Cys Pro Ala Thr Arg Pro Arg Arg Pro Arg Glu Pro Leu
565 570 575

Thr Leu Ile Gly Arg Leu Ile Gly Arg Leu Pro Lys Glu Lys Leu Ile
580 585 590

Thr Ser Gly Phe Ser Thr Arg Arg Arg Pro
595 600

<210> 427
<211> 79
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 36116 right: 36352 frame: -3 size(aa): 79

<400> 427

Val Leu Ala Arg Arg Pro Pro Gln Leu Arg Pro Ser Phe Gly Pro Gln
1 5 10 15

Ile Gly Pro Ser His Arg Arg Asn Cys Ile Trp Ala Lys Leu Ile Glu
20 25 30

Arg Arg Lys Ala Leu Ser Gly Leu Val Met Gly Ala Arg Gly Phe Leu
35 40 45

Val Pro Pro Pro Pro Met Pro Pro Ala Pro Glu Met Ser Phe Ile Arg
50 55 60

Thr Ala Pro Gln Arg Gly Pro Gly Asp Pro Gly Ser Arg Ser Arg
65 70 75

<210> 428
<211> 434
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 36122 right: 37423 frame: 3 size(aa): 434

<400> 428

Ala Ala Pro Gly Val Ser Trp Ala Ser Leu Arg Gly Ser Ser Tyr Glu
1 5 10 15

Ala His Leu Trp Ser Arg Arg His Arg Arg Arg Arg Asp Gln Glu Ala
20 25 30

Pro Gly Ala His His Gln Pro Gly Gln Arg Leu Pro Ala Leu Asp Gln
35 40 45

```
Leu Arg Pro Asp Ala Val Pro Pro Val Arg Gly Ala Asp Leu Gly Ala
    50                  55                  60

Glu Gly Gly Ala Gln Leu Gly Arg Pro Pro Gly Gln His Leu Pro Gly
65                  70                  75                  80

Arg His Pro Ala Val Arg Pro Gly Pro Gly Arg His Gly Ala Arg Arg
                85                  90                  95

Arg Pro Gly Ala Glu Leu Arg His Leu Arg Pro Asp Gly Gly Pro Gly
            100                 105                 110

Val Arg Gly Pro Val Glu His His Arg Gly Arg Pro Val Arg Gln Gly
        115                 120                 125

Ile Val Pro Gly Val Arg His Gly Asp Ala Gln Arg Pro Asp His Pro
    130                 135                 140

Ala Pro Gly Pro Gly Gly Pro His Leu Gly Gly Ala Ala Arg Arg Val
145                 150                 155                 160

Gln Ala Asp Gly Arg Arg Arg Arg Gly Pro Gly Ala Val Pro Asp Arg
                165                 170                 175

Leu His Arg Arg Gln Arg Gly Arg Pro Thr Arg Val Arg Arg Leu His
            180                 185                 190

Leu Arg Gln Val Gln Arg Ala Val Pro Ala Gly Ala Arg Met Gly Pro
        195                 200                 205

Gly Arg Pro Gly Ala Leu Gly Gly Pro Gly His Ala Asp Gly Arg Arg
    210                 215                 220

Arg Arg Arg Pro Arg Asn Ala Asp Arg Val Val Pro Leu Gly Val Gln
225                 230                 235                 240

Leu His Glu Ser Gln Leu Trp Pro Gly Ala Val Ser Gly Ala Pro Val
                245                 250                 255

Gln Cys His Ala His Pro Gly Arg Pro Gly Gly Pro Val Leu Gln Pro
            260                 265                 270

Ala Gly Gly Arg His Arg Pro Val Arg Gln Asp Leu Gln Gly Thr His
        275                 280                 285

Glu Leu Arg Pro Leu Gly Arg His Leu Gln Arg Gly Val Gly Arg Glu
    290                 295                 300

Leu Gln Gly Gly Leu Asp Arg Gln Pro Arg Leu Val Leu Leu Arg His
305                 310                 315                 320

Gly Asp Glu Pro Gln Val Arg Pro Gly Arg Val Asp Arg Ser Gly Ala
                325                 330                 335

Asp Arg Gln Val Val Pro Leu Phe His Arg Pro Val Leu Arg Arg Pro
            340                 345                 350

Gly Ala Arg Arg Arg Arg Gly Ala Gly Ala Ala Val Ser Val Gln Pro
        355                 360                 365

Asp Pro Gly Arg Pro Glu Arg Arg Leu Gly Gly Pro Pro Ala Ala Gly
```

370 375 380

Val Asp Leu Pro Gly Ala Asp Leu Leu Glu Cys Arg Pro Gly Gly Gln
385 390 395 400

His Pro Gly Arg Pro Arg Gly Leu Pro Val His Val Gln Pro Ile Gln
405 410 415

Arg Arg Ala Asp Arg Arg Arg Leu Trp Arg Gly Arg Pro Ala Leu Leu
420 425 430

Arg Val

<210> 429
<211> 79
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 36169 right: 36405 frame: 2 size(aa): 79

<400> 429

Ser Ser Ser Leu Glu Pro Ala Ala Ser Ala Ala Ala Gly Pro Arg Ser
1 5 10 15

Pro Gly Arg Pro Ser Pro Ala Arg Thr Ala Pro Ser Cys Ala Arg Ser
20 25 30

Ala Ser Pro Arg Cys Ser Ser Ser Cys Ala Arg Gly Arg Ser Gly Gly
35 40 45

Arg Arg Arg Gly Ala Ala Gly Ala Ala Ser Trp Pro Ala Pro Thr Trp
50 55 60

Thr Thr Pro Arg Cys Pro Ser Gly Ala Trp Ala Ala Arg Cys Pro
65 70 75

<210> 430
<211> 78
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 36265 right: 36498 frame: -2 size(aa): 78

<400> 430

Arg Thr Gly Arg Pro Arg Trp Cys Ser Thr Gly Pro Arg Thr Pro Gly
1 5 10 15

Pro Pro Ser Gly Arg Arg Cys Arg Ser Ser Ala Pro Gly Leu Leu Arg
20 25 30

Ala Pro Cys Arg Pro Gly Pro Gly Arg Thr Ala Gly Cys Arg Pro Gly
35 40 45

```
Arg Cys Trp Pro Gly Gly Arg Pro Ser Cys Ala Pro Pro Ser Ala Pro
    50                  55                  60

Arg Ser Ala Pro Arg Thr Gly Gly Thr Ala Ser Gly Arg Ser
65                  70                  75

<210>  431
<211>  73
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 36424 right: 36642 frame: 2 size(aa): 73


<400>  431

Ala Thr Ala Pro Ser Thr Arg Arg Arg Ser Arg Gly Thr Gly Ser Ser
1               5                   10                  15

Gly Thr Pro Ser Gly Ser Ala Ser Pro Ser Arg His Arg Ser Arg Cys
            20                  25                  30

Ser Pro Arg Arg Cys Pro Ala Thr Arg Pro Pro Ser Thr Gly Pro Gly
        35                  40                  45

Trp Ser Ser Pro Gly Arg Arg Cys Ser Ser Arg Ser Ser Arg Arg Ala
    50                  55                  60

Thr Ser Ser Arg Pro Arg Cys Arg Thr
65                  70

<210>  432
<211>  74
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 36428 right: 36649 frame: -3 size(aa): 74


<400>  432

Ser Ile Arg Tyr Gly Thr Trp Ala Ser Thr Thr Ser Pro Val Cys Leu
1               5                   10                  15

Asn Ala Thr Ser Ser Ala Ser Gln Val Arg Thr Thr Arg Ala Arg Cys
            20                  25                  30

Trp Val Val Gly Ser Leu Gly Ile Ala Val Ala Asn Thr Gly Asn Asp
        35                  40                  45

Ala Leu Thr Asp Trp Pro Thr Pro Met Val Phe His Trp Thr Pro Tyr
    50                  55                  60

Pro Gly Thr Ala Val Trp Ser Lys Val Pro
65                  70
```

<210> 433
<211> 146
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 36646 right: 37083 frame: 2 size(aa): 146

<400> 433

Ser Thr Thr Pro Thr Pro Thr Gly Ser Ser Asp Ser Cys Ser Pro Ala
1 5 10 15

Ser Pro Ser Ala Ser Ser Ala Gly Arg Ser Ser Gly Ser Thr Asn Gly
20 25 30

Thr Trp Pro Ala Arg Gly Pro Gly Trp Ser Gly Ser Cys Gly Trp Pro
35 40 45

Gln Thr Thr Thr Pro Ser Lys Arg Arg Ser Arg Arg Ser Ala Arg Arg
50 55 60

Ser Ala Ser Arg Ile Ser Ala Leu Ala Arg Cys Cys Leu Trp Gly Ala
65 70 75 80

Gly Thr Val Pro Arg Ser Pro Trp Pro Pro Gly Arg Thr Gly Thr Pro
85 90 95

Thr Cys Arg Arg Ser Pro Ser Thr Cys Thr Ala Arg Ser Ala Arg Tyr
100 105 110

Pro Arg Thr Thr Thr Pro Gly Pro Ala Pro Thr Ala Gly Cys Gly Thr
115 120 125

Gly Ala Ser Arg Arg Thr Gly Pro Thr Thr Pro Pro Gly Ala Ser Thr
130 135 140

Thr Trp
145

<210> 434
<211> 112
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 36653 right: 36988 frame: -3 size(aa): 112

<400> 434

Phe Val Gly Thr Leu Gln Ile Leu Pro Tyr Arg Ser Met Ala Thr Ala
1 5 10 15

Gly Arg Leu Glu Tyr Arg Ser Ala Arg Ala Ala Arg Val Ser Val Ala
20 25 30

Leu Tyr Arg Arg Pro Arg Asp Ser Thr Gly Pro Lys Leu Arg Phe Val

35 40 45

Lys Leu Asn Ala Glu Arg Asn Asp Ala Ile Gly Val Ser Arg Ala Ser
50 55 60

Ser Ser Ala Ala Ile Arg Met Thr Arg Thr Thr Gln Gly Pro Gly Pro
65 70 75 80

Ala Arg Ser His Ser Cys Ser Arg Trp Asn Gly Pro Leu Asn Leu Pro
85 90 95

Lys Val Lys Pro Ala Asn Thr Ser Arg Thr Thr Pro Leu Ala Ser Val
100 105 110

<210> 435
<211> 93
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 37039 right: 37317 frame: -2 size(aa): 93

<400> 435

Pro Pro Gly Arg His Ser Lys Arg Ser Ala Pro Gly Arg Ser Thr Pro
1 5 10 15

Ala Ala Gly Gly Pro Pro Arg Arg Arg Ser Gly Arg Pro Gly Ser Gly
20 25 30

Cys Thr Glu Thr Ala Ala Pro Ala Pro Arg Arg Arg Arg Ala Pro Gly
35 40 45

Arg Arg Ser Thr Gly Arg Trp Asn Arg Gly Thr Thr Cys Arg Ser Ala
50 55 60

Pro Asp Arg Ser Thr Arg Pro Gly Arg Thr Trp Gly Ser Ser Pro Cys
65 70 75 80

Arg Arg Ser Thr Arg Arg Gly Cys Arg Ser Ser Pro Pro
85 90

<210> 436
<211> 113
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 37151 right: 37489 frame: -3 size(aa): 113

<400> 436

Ala Leu Ala Gly Ser Ser Gln Glu Thr Arg Gln Thr Val Cys Arg Val
1 5 10 15

Arg Leu Ala Val Pro Ser Tyr Ser Lys Gln Gly Trp Thr Thr Ala Pro
20 25 30

```
Glu Ser Ser Thr Val Cys Ser Thr Leu Asp Gly Leu Asn Val Tyr Arg
        35                  40                  45

Lys Ser Pro Gly Ala Ser Trp Val Leu Thr Thr Arg Pro Ala Leu Gln
    50                  55                  60

Lys Ile Cys Pro Arg Lys Ile Asp Ala Ser Cys Trp Arg Thr Thr Gln
65                  70                  75                  80

Ala Ser Phe Trp Ala Ala Arg Ile Arg Leu His Arg Asn Arg Arg Ser
                85                  90                  95

Ser Pro Pro Pro Thr Ala Gly Thr Arg Pro Ser Gln Tyr Trp Pro Met
            100                 105                 110

Glu
```

<210> 437
<211> 140
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 37228 right: 37647 frame: 2 size(aa): 140

<400> 437

```
Ser Trp Pro Pro Arg Thr Thr Pro Gly Trp Ser Ser Ser Ser Trp Arg
1               5                   10                  15

Arg Ser Ser Gly Gly Arg Ser Phe Gly Val Pro Ala Trp Trp Ser Ala
            20                  25                  30

Pro Arg Thr Pro Pro Gly Thr Ser Cys Thr Arg Ser Thr His Pro Thr
        35                  40                  45

Ser Ser Arg Pro Ser Thr Thr Leu Ala Arg Ser Ser Ser Pro Ala Ser
    50                  55                  60

Ser Met Arg Ala Arg Pro Asn Ala Pro Gly Thr Pro Ser Val Trp Ser
65                  70                  75                  80

Pro Gly Thr Thr Arg Pro Thr Pro Thr Ser Pro Gly Trp Ser Thr Ser
                85                  90                  95

Arg Thr Ala Met Pro Trp Pro Ala Leu Ala Thr Gly Arg Trp Ser Ser
            100                 105                 110

Gly Ser Thr Ala Ser Pro Pro Gly Gly Arg Pro Cys Gly Arg Pro Ser
        115                 120                 125

Gly Arg Ser Cys Arg Arg Arg Ser Trp Thr Thr Arg
    130                 135                 140
```

<210> 438
<211> 69
<212> PRT

<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 37360 right: 37566 frame: -2 size(aa): 69

<400> 438

Ala Gly Ala Pro Ala Ala Gly Ser Gln Gly Gly Pro Gly His Arg Cys
1 5 10 15

Pro Arg Cys Thr Pro Pro Gly Ala Gly Arg Arg Trp Pro Gly Arg Pro
20 25 30

Arg Arg Pro Asp Arg Arg Cys Ala Gly Cys Val Trp Pro Cys Pro His
35 40 45

Thr Arg Ser Arg Ala Gly Arg Pro Arg Gln Ser Arg Arg Arg Ser Ala
50 55 60

Arg Arg Trp Met Gly
65

<210> 439
<211> 337
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 37427 right: 38437 frame: 3 size(aa): 337

<400> 439

Gly His Gly Gln Thr His Pro Ala His Arg Leu Ser Gly Leu Leu Gly
1 5 10 15

Arg Pro Gly Gln Arg Leu Pro Ala Pro Gly Gly Val His Arg Gly Gln
20 25 30

Arg Cys Pro Gly Pro Pro Trp Leu Pro Ala Ala Gly Ala Pro Ala Gln
35 40 45

Arg His His His Pro Gly Ala Gly Pro Ala Asp Gly Pro Val Gly Ala
50 55 60

Pro Val Gly Gly Asp Pro Gly Arg His Gly Asp Val Gln Gly Gly Arg
65 70 75 80

His Arg His Gly Pro Ala Pro Trp Gly Ser Cys Gln Gly His Gly Pro
85 90 95

Gly Gln Gly Arg Gly Pro Leu Arg Arg Ser Gly Gly Cys Pro Gly Arg
100 105 110

Arg His Asp His Ala Arg Arg Gly Thr Pro Asp Thr Pro Arg Arg Leu
115 120 125

Gly Gly Arg Ala Val Leu Leu Ala Val Gly Gly Arg Ala Thr Pro Gly

```
    130                 135                 140

Gln Arg Gly Gly Gly Leu Arg Gly Arg Arg Asp Gly Leu Arg Leu Gly
145                 150                 155                 160

Arg Arg Gln Pro Ala His Pro Arg His Ala Leu Ala Ala Gly Gly Ala
                165                 170                 175

Gln Pro Gly Gly Pro Ala Val Pro His Pro Gly Tyr Arg Gly Ala Arg
            180                 185                 190

Pro Glu Pro Val Arg Arg His Gly Pro Ala Leu Pro Val Arg His Leu
        195                 200                 205

Arg Pro Gly Gly Leu Arg Tyr Pro Ala Leu Gly Arg Arg Gly Leu Pro
    210                 215                 220

Val Gln Ala Ala Gly Pro Ala Ala Pro Asp Asp Pro Glu Cys Pro Asp
225                 230                 235                 240

Arg Leu Gly Gln Gln Pro Gly Gln Ala Arg Gly Gln Leu Ala Pro Pro
                245                 250                 255

Arg Pro Gly Ile Arg Arg Trp Arg Phe Arg Pro Val His Leu Leu Pro
            260                 265                 270

Pro Ala Pro Val Pro Ala Gly Arg Gly Arg Gly Trp Arg Gly Gly His
        275                 280                 285

Leu Asp Gln Ser Val Gly Gly Gly Arg Pro Thr Asp Arg His His Arg
    290                 295                 300

Asp Asp Pro Pro Gly Gly Val Pro Gly Ala Asp Pro Val Gln Gly Pro
305                 310                 315                 320

Asp Gly Val Gly Gly Gln Ser Arg Arg Arg Val Ala Leu Val Gly Gly
                325                 330                 335

Ala


<210>  440
<211>  93
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 37547 right: 37825 frame: -3 size(aa): 93


<400>  440

Asn Ser Pro Pro Ala Gln Pro Ala Arg Gly Val Gly Gly Ala Ala Ser
1               5                   10                  15

Ser Val Ile Val Ser Pro Ser Trp Ala Thr Thr Arg Pro Pro Lys Arg
            20                  25                  30

Thr Pro Pro Leu Ser Gly Ser Met Thr Leu Thr Arg Ser Pro Gly Arg
        35                  40                  45
```

```
Arg Ala Met Pro Met Ala Pro Thr Leu Asn Val Thr Val Ser Ser Arg
    50                  55                  60

Ile Ala Ser Asp Arg Ser Ala His Trp Ala Val Arg Arg Ala Cys Pro
65                  70                  75                  80

Arg Val Val Met Pro Leu Ser Arg Ser Ser Ser Gly Arg
                85                  90

<210>  441
<211>  79
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 37651 right: 37887 frame: 2 size(aa): 79


<400>  441

Arg Ser Arg Trp Ala Pro Ser Ala Trp Pro Cys Ala Leu Gly Ile Leu
1               5                   10                  15

Ser Arg Ser Trp Thr Arg Thr Arg Ala Gly Ser Ala Ser Ala Val Gly
            20                  25                  30

Trp Leu Pro Arg Thr Ala Thr Arg Ser Arg Ser Thr Arg His Pro Arg
        35                  40                  45

His Pro Ser Pro Ala Gly Arg Glu Gly Cys Ser Ile Gly Ser Arg Gly
    50                  55                  60

Pro Gly Tyr Pro Gly Ser Thr Trp Arg Gly Ser Pro Gly Pro Ser
65                  70                  75

<210>  442
<211>  68
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 37829 right: 38032 frame: -3 size(aa): 68


<400>  442

Arg Arg Ala Val Thr Ala Tyr Arg Phe Trp Pro Ser Ser Ser Ile Pro
1               5                   10                  15

Arg Met Arg Asn Gly Trp Ala Ser Arg Leu Gly Thr Ser Ser Ser Gln
            20                  25                  30

Gly Met Pro Gly Val Gly Arg Leu Ser Ser Pro Gln Pro Glu Thr Val
        35                  40                  45

Thr Thr Ala Pro Glu Thr Pro Ala Thr Leu Thr Arg Gly Ser Pro Ala
    50                  55                  60
```

Pro Asp Cys Gln
65

<210> 443
<211> 707
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 37851 right: 39971 frame: -1 size(aa): 707

<400> 443

Arg Leu Val Ala Asp His Asp Gln Val His Gln Gly Arg Arg Val Gly
1 5 10 15

Pro Gly Gly Val His Arg Pro Gln Val Asp Pro Val Gly Ala Leu Val
20 25 30

Asp Asp Ala Pro Pro Asp Gly His Pro Gly Gly His Gly Val Val Leu
35 40 45

His Arg His Arg Asn Arg Leu Asp Pro Ala Glu Gln Pro Arg Trp Gln
50 55 60

Arg Asp Arg Cys Asp Ala His Thr Gly Leu Val Val Leu Asp Arg Pro
65 70 75 80

Asp Asp Val Gly His Val Glu Asp His Ile Asp Val Leu Asp Pro Gly
85 90 95

Gly His Val Gly Ser Ala Gly Asp Gly Leu Glu Ala Asp Leu Pro Gln
100 105 110

Ala Gly Gly Gln Leu Leu Val Gly Gly Val Gly Val Glu Pro Arg Pro
115 120 125

Ala Ala Gln Glu Leu Ala Gln Val Glu Trp Arg Leu Leu Gly Asp Val
130 135 140

Val His Arg Val Gly Arg Arg Gly Asp Val Pro Glu Pro Gln Ala Asp
145 150 155 160

Arg Ala Asp Val Leu Lys Pro Pro Ala Val Arg Pro Gly Val Gly Phe
165 170 175

Cys Val Asp Gln Gln Gly Ala Ala Val Tyr Leu His Leu Gln Gln Gly
180 185 190

Pro Val Asp His Gly Leu Gly Arg Val Val Leu Asp Glu Leu Thr Ala
195 200 205

Ala Pro Ala Ala Val Asp Arg Leu Leu Gln Gly Arg Leu Val Gln Val
210 215 220

Leu Gly Gly Gly Trp Glu Val Glu Gln Arg Ala Ser Arg Ala Asp His
225 230 235 240

Gly Ala Val Cys Gln Ile Ser Arg Pro Ala Leu Gln Arg Gln Val Glu

245 250 255

Gln Arg Lys Asp Val Gly Gly Gln Gly Leu Ala Asp Ala His Arg His
260 265 270

Asp Arg His Leu Ile Gly Asp Pro Pro Gly Pro Val Pro Gly Pro Glu
275 280 285

His Asp Arg Glu Gly Pro Val Val His Gln Val Gly Leu Glu Pro Glu
290 295 300

Gly Val Pro Gly Asp Ala Val Gly Gln Gln Gly Glu Ser Ala Leu Pro
305 310 315 320

Ala His Ile Asp Ala Ala Pro Val Ala His Leu Glu Thr Gly Asp Val
325 330 335

Ala His Gln Ala Ala Ala Pro Ala Leu Gly Glu Arg Trp Arg Val Arg
340 345 350

His Glu Pro Arg Glu Pro Ala Ala Ala His Pro Ala Leu Ala Val Leu
355 360 365

Leu Gly Asp Gln Ala Glu Leu Gly Gly Gly Gly Gly Asp Asp Leu Gln
370 375 380

Ala Val His His Val Glu His Glu Arg Pro Pro Leu Gln Ala Gly His
385 390 395 400

Lys Arg Gly Gln Pro Gly Pro His Val Pro Gly Ser Cys His Gly Gln
405 410 415

Gln Gly Leu Asp Ala Gly Ile Arg Gly Ser Gly Ala Gln Lys Asp Val
420 425 430

Ala Val Leu Val Gly Gly Asp Ala Val Gly Gln Trp His Pro Asp Gly
435 440 445

Pro Pro Pro His Leu Asp Arg Ala Gly Val Arg Arg His Leu Gly Glu
450 455 460

Asp Leu Pro Gly Pro Glu Val Ala Ala Ser Gly Gln Val Arg Val Arg
465 470 475 480

Gln Asp Ala Ser Arg Ala Gly Leu Ala Pro Gly Val Arg Asp Asp Arg
485 490 495

Leu Glu Val Gly Asp Arg Glu Pro His Leu Glu Arg Arg Gly Leu Lys
500 505 510

Leu Arg Arg Pro Glu Arg Leu Gly Ala Gly Phe Ala His Arg Arg His
515 520 525

Pro Asp Leu Val Pro Gly Leu Arg Leu Val Pro His Gln Gly Asp Arg
530 535 540

Leu Gly Gly Val Gly Leu Ser Val Tyr Leu Arg Pro Leu Ile Gly Pro
545 550 555 560

Gly Asp Leu Pro Ala Ser Pro Asp Leu Ala Pro Leu Val Leu Glu Pro
565 570 575

```
Val Val Gly Gly Gly Gln Val Glu Thr Ala Ile Asp Glu Tyr Pro Val
            580                 585                 590

Leu Gly Ala Pro Val Asp Leu Glu Leu Gly Leu Ala Val Val Pro Asp
        595                 600                 605

Asp Leu Gly Ile Gln Asp Arg Arg Gly Gln Arg Val Gln Gln Leu Glu
    610                 615                 620

Gln Val Val Leu Val Val Arg Glu Arg Gly Ile Glu Val His Pro Val
625                 630                 635                 640

Val Asp Val Gly Pro Val Ala Gln Gly Arg Asp Gly Val Pro Val Leu
                645                 650                 655

Ala Glu Leu Leu Asp Thr Gln Asp Ala Glu Arg Leu Gly Leu Gln Val
            660                 665                 670

Gly His Leu Gln Gln Pro Gly His Ala Gly Gly Gly Pro Ala Val Val
        675                 680                 685

Ala Pro Ala Gly Asp Arg His Asp Gly Pro Gly Asp Pro Arg His Val
    690                 695                 700

Asp Pro Gly
705
```

<210> 444
<211> 53
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 37861 right: 38019 frame: -2 size(aa): 53

<400> 444

```
Arg Arg Thr Gly Ser Gly Arg Ala Pro Arg Tyr Pro Gly Cys Gly Thr
1               5                   10                  15

Ala Gly Pro Pro Gly Trp Ala Pro Pro Ala Ala Arg Ala Cys Arg Gly
            20                  25                  30

Trp Ala Gly Cys Arg Arg Pro Ser Arg Arg Pro Ser Arg Arg Pro Arg
        35                  40                  45

Arg Pro Pro Pro Arg
    50
```

<210> 445
<211> 81
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 37891 right: 38133 frame: 2 size(aa): 81

<400> 445

Arg Ser Pro Ala Gly Ala Thr Thr Ala Gly Pro Pro Pro Ala Cys Pro
1 5 10 15

Gly Cys Trp Arg Cys Pro Thr Trp Arg Pro Ser Arg Ser Ala Ser Trp
20 25 30

Val Ser Arg Ser Ser Ala Arg Thr Gly Thr Pro Ser Arg Pro Cys Ala
35 40 45

Thr Gly Pro Thr Ser Thr Thr Gly Trp Thr Ser Ile Pro Arg Ser Arg
50 55 60

Thr Thr Arg Thr Thr Cys Ser Ser Cys Trp Thr Arg Cys Pro Arg Arg
65 70 75 80

Ser

<210> 446
<211> 59
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 38137 right: 38313 frame: 2 size(aa): 59

<400> 446

Met Pro Arg Ser Ser Gly Thr Thr Ala Arg Pro Ser Ser Arg Ser Thr
1 5 10 15

Gly Ala Pro Lys Thr Gly Tyr Ser Ser Met Ala Val Ser Thr Cys Pro
20 25 30

Pro Pro Thr Thr Gly Ser Ser Thr Ser Gly Ala Arg Ser Gly Leu Ala
35 40 45

Gly Arg Ser Pro Gly Pro Ile Ser Gly Arg Arg
50 55

<210> 447
<211> 59
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 38290 right: 38466 frame: -2 size(aa): 59

<400> 447

Gly Thr Thr Pro Arg Ala Ala Trp Pro Gln Ala Pro Pro Thr Arg Ala
1 5 10 15

Thr Arg Arg Arg Leu Cys Pro Pro Thr Pro Ser Gly Pro Cys Thr Gly

```
            20                  25                  30

Ser Ala Pro Gly Thr Pro Pro Gly Gly Ser Ser Arg Trp Cys Arg Ser
        35                  40                  45

Val Gly Leu Pro Pro Pro Thr Asp Trp Ser Arg
    50                  55
```

<210> 448
<211> 98
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 38303 right: 38596 frame: -3 size(aa): 98

<400> 448

```
Gly Gly Thr Trp Val Lys Ile Phe Gln Val Gln Arg Trp Pro Pro Val
1               5                   10                  15

Ala Arg Phe Val Cys Asp Arg Thr Pro Ala Gly Pro Val Ser Pro Pro
            20                  25                  30

Gly Cys Gly Thr Ile Asp Ser Lys Ser Gly Ile Gly Asn His Thr Ser
        35                  40                  45

Ser Gly Val Ala Ser Ser Ser Ala Asp Gln Ser Asp Ser Ala Pro Ala
    50                  55                  60

Leu Pro Thr Asp Ala Ile Arg Thr Leu Tyr Arg Val Cys Ala Trp Tyr
65                  70                  75                  80

Pro Thr Arg Gly Ile Val Ser Val Val Ser Val Cys Arg Ser Thr Ser
                85                  90                  95

Ala His
```

<210> 449
<211> 148
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 38317 right: 38760 frame: 2 size(aa): 148

<400> 449

```
Thr Asp Arg Pro Thr Pro Pro Arg Arg Ser Pro Trp Trp Gly Thr Arg
1               5                   10                  15

Arg Arg Pro Gly Thr Arg Ser Gly Trp Arg Arg Trp Ala Lys Pro Ala
            20                  25                  30

Pro Ser Arg Ser Gly Arg Arg Ser Leu Arg Pro Arg Arg Ser Arg Cys
        35                  40                  45
```

Gly Ser Leu Ser Pro Thr Ser Ser Arg Ser Ser Arg Thr Pro Gly Ala
50 55 60

Arg Pro Ala Arg Leu Ala Ser Cys Arg Thr Arg Thr Trp Pro Leu Ala
65 70 75 80

Ala Thr Ser Gly Pro Gly Arg Ser Ser Pro Arg Cys Arg Leu Thr Pro
85 90 95

Ala Arg Ser Arg Cys Gly Gly Gly Pro Ser Gly Cys His Cys Pro Thr
100 105 110

Ala Ser Pro Pro Thr Arg Thr Ala Thr Ser Phe Trp Ala Pro Leu Pro
115 120 125

Arg Met Pro Ala Ser Arg Pro Cys Cys Pro Trp Gln Leu Pro Gly Thr
130 135 140

Cys Gly Pro Gly
145

<210> 450
<211> 234
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 38441 right: 39142 frame: 3 size(aa): 234

<400> 450

Gly His Ala Ala Arg Gly Val Val Pro Tyr Pro Arg Leu Arg Val Asp
1 5 10 15

Arg Pro Ala Pro Arg Gly Arg Asp Arg Pro Gly Trp Arg Pro Val Ala
20 25 30

His Glu Pro Gly His Trp Arg Pro Pro Leu Asp Leu Glu Asp Leu His
35 40 45

Pro Gly Ala Ala Leu Arg Pro Leu Asp Arg Gly Val Gly Ala Ala Arg
50 55 60

Arg Gly Ala Thr Ala Arg Arg Arg His His Arg Arg Gly Arg Leu His
65 70 75 80

Pro Phe Gly His Arg Cys Pro Glu Cys Arg Arg Arg Gly Pro Ala Ala
85 90 95

Arg Gly Ser Tyr Leu Gly Arg Ala Gly Pro Ala Asp His Val Cys Ala
100 105 110

Arg Pro Gly Gly Ala Val Val His Ala Arg His Gly Gly Pro Pro Gly
115 120 125

Asp Arg Pro Pro His Pro His Arg Val Pro Pro Gly His Arg Ala Gly
130 135 140

```
Arg Pro Glu Pro Asp Gly Gln Pro Pro Val Leu Leu Ala His Ala Gly
145                 150                 155                 160

Pro Ala Thr Val Arg Arg Ala Leu Gly Arg Arg Pro Gly Glu Arg His
                165                 170                 175

Arg Arg Phe Arg Gly Ala Leu Pro Glu Arg Arg Arg Cys Gly Leu Gly
            180                 185                 190

Gly Arg Phe Pro Pro Ala Val Arg Arg Arg Pro Arg Gly His Leu Leu
        195                 200                 205

Val Arg Asp Pro Pro Asp Gly Leu Arg Asp Leu His Gly His Ala Pro
    210                 215                 220

Gly Pro Gly Pro Asp Arg Val Gly Leu Arg
225                 230
```

<210> 451
<211> 103
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 38678 right: 38986 frame: -3 size(aa): 103

<400> 451

```
Arg Thr Ser Lys Pro Ala Met Ser Leu Thr Arg Pro Pro Pro Gln Arg
1               5                   10                  15

Ser Ala Asn Gly Gly Gly Ser Gly Met Ser Gln Glu Asn Arg Arg Leu
            20                  25                  30

Pro Ile Arg Leu Trp Pro Ser Cys Ser Val Thr Arg Arg Asn Ser Val
        35                  40                  45

Gly Val Gly Gly Thr Ile Ser Arg Arg Ser Thr Met Ser Ser Met Asn
    50                  55                  60

Asp Arg Pro Ser Arg Pro Gly Thr Asn Val Val Ser Arg Ala Arg Thr
65                  70                  75                  80

Ser Gln Val Ala Ala Thr Gly Ser Arg Ala Ser Thr Pro Ala Phe Gly
                85                  90                  95

Ala Ala Val Pro Lys Arg Met
            100
```

<210> 452
<211> 65
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 38764 right: 38958 frame: 2 size(aa): 65

<400> 452

Pro Arg Leu Cys Pro Ala Trp Arg Gly Gly Arg Ser Cys Ser Thr Trp
1 5 10 15

Trp Thr Ala Trp Arg Ser Ser Pro Pro Pro Pro Pro Ser Ser Ala Trp
20 25 30

Ser Pro Ser Arg Thr Ala Arg Ala Gly Trp Ala Ala Ala Gly Ser Leu
35 40 45

Gly Ser Cys Arg Thr Arg His Arg Ser Pro Ser Ala Gly Ala Ala Ala
50 55 60

Trp
65

<210> 453
<211> 61
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 38914 right: 39096 frame: -2 size(aa): 61

<400> 453

Arg Ser Arg Ser Pro Ser Gly Gly Ser Arg Thr Arg Arg Cys Pro Arg
1 5 10 15

Gly Arg Arg Arg Thr Ala Gly Gly Lys Arg Pro Pro Ser Pro His Arg
20 25 30

Arg Arg Ser Gly Ser Ala Pro Arg Asn Arg Arg Cys Arg Ser Pro Gly
35 40 45

Arg Arg Pro Ser Ala Arg Arg Thr Val Ala Gly Pro Ala
50 55 60

<210> 454
<211> 63
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 39089 right: 39277 frame: -3 size(aa): 63

<400> 454

Asn Ser Gly Leu Val Glu Pro Thr Thr Val Pro Phe Ala Arg Ser Pro
1 5 10 15

Gly Gln Pro Ser Ser Asp Arg Ser Ser Ser Val Arg Thr Leu Val Gly
20 25 30

Arg Gly Trp Pro Met Pro Thr Val Thr Thr Ala Ile Ser Ser Glu Thr
35 40 45

His Pro Val Arg Ser Arg Ala Arg Ser Met Thr Val Lys Val Pro
50 55 60

<210> 455
<211> 85
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 39160 right: 39414 frame: 2 size(aa): 85

<400> 455

Arg Trp Ala Ser Ala Ser Pro Cys Pro Pro Thr Ser Leu Arg Cys Ser
1 5 10 15

Thr Cys Arg Trp Arg Ala Gly Leu Glu Ile Trp Gln Thr Ala Pro Trp
20 25 30

Ser Ala Arg Leu Ala Arg Cys Ser Thr Ser His Pro Pro Pro Arg Thr
35 40 45

Cys Thr Arg Arg Pro Trp Arg Arg Arg Ser Thr Ala Ala Gly Ala Ala
50 55 60

Val Ser Ser Ser Arg Thr Thr Arg Pro Ser Pro Trp Ser Thr Gly Pro
65 70 75 80

Cys Trp Arg Trp Arg
85

<210> 456
<211> 72
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 39268 right: 39483 frame: -2 size(aa): 72

<400> 456

Cys Pro Gln Ala Ala Ser Gly Thr Thr Arg Cys Arg Ile Leu Cys Arg
1 5 10 15

Ser Ala Gly Arg Cys Arg Leu Pro Pro Pro Pro Ala Gly Pro Gly Arg
20 25 30

Pro Trp Ala Gly Pro Gly Arg Ser Gly Arg Ala His Arg Arg Ser Gly
35 40 45

Arg Cys Arg Ser Pro Pro Pro Gly Ala Pro Arg Thr Gly Pro Arg Trp
50 55 60

Trp Val Gly Ser Arg Thr Ala Gly
65 70

<210> 457
<211> 55
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 39440 right: 39604 frame: -3 size(aa): 55

<400> 457

Gly Trp Ser Pro Ala Pro Pro Leu Arg Asn Ser Pro Arg Trp Asn Gly
1 5 10 15

Ala Ser Ser Ala Thr Ser Tyr Ile Gly Ser Val Val Gly Ala Thr Tyr
20 25 30

Arg Ser Pro Arg Pro Thr Val Leu Met Ser Ser Ser Arg Gln Arg Tyr
35 40 45

Asp Pro Val Ser Asp Ser Val
50 55

<210> 458
<211> 169
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 39479 right: 39985 frame: 3 size(aa): 169

<400> 458

Gly His Gln His Gly Arg Pro Gly Ala Pro Val Arg Arg Pro Asp Asp
1 5 10 15

Arg Pro Asp Val Arg Arg Arg Arg Gly Gly Ala Ile Pro Pro Gly Arg
20 25 30

Val Pro Glu Arg Arg Gly Gly Ala Pro Pro Leu Arg Pro Pro Pro Glu
35 40 45

Ala Asp Arg Arg Pro Val Ala Asp Gln Pro Arg Gly His Arg Gln His
50 55 60

Tyr Gln Arg Ala Arg Pro Asp Pro Gly Arg Arg Cys Gly Pro Arg Arg
65 70 75 80

Ala Arg Arg Arg Leu Asp Asp Arg Gly Leu Arg Gly Arg Cys Gly Arg
85 90 95

His Ile Gly Pro Ala Ala Thr Gly Ala Val Pro Pro Gly Gln Gly Gly
100 105 110

Phe Asp Gly Gly Ala Gly Arg His Arg Gly Arg Arg Gly Gly Arg Arg
115 120 125

Gly Ala His Arg Leu Gln Gly His Arg Pro Asp Arg Pro Ala Asp Gly

130 135 140

Gly Arg Leu Arg Gly Arg His Gly Gly Pro Gly Gly Pro Asp Arg Gly
145 150 155 160

Arg Leu Leu Val Ala Thr Val Leu Ala
165

<210> 459
<211> 53
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 39487 right: 39645 frame: -2 size(aa): 53

<400> 459

Ser Ala Thr Gly Arg Arg Ser Ala Ser Gly Gly Gly Arg Arg Gly Gly
1 5 10 15

Ala Pro Pro Arg Arg Ser Gly Thr Arg Pro Gly Gly Met Ala Pro Pro
20 25 30

Arg Arg Arg Arg Thr Ser Gly Arg Ser Ser Gly Arg Arg Thr Gly Ala
35 40 45

Pro Gly Arg Pro Cys
50

<210> 460
<211> 107
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 39628 right: 39948 frame: 2 size(aa): 107

<400> 460

Pro Pro Ala Cys Gly Arg Ser Ala Ser Arg Pro Ser Pro Ala Leu Pro
1 5 10 15

Thr Cys Pro Pro Gly Ser Arg Thr Ser Met Trp Ser Ser Thr Cys Pro
20 25 30

Thr Ser Ser Gly Arg Ser Arg Thr Thr Arg Pro Val Trp Ala Ser His
35 40 45

Arg Ser Arg Cys His Arg Gly Cys Ser Ala Gly Ser Arg Arg Phe Arg
50 55 60

Trp Arg Cys Arg Thr Thr Pro Trp Pro Pro Gly Trp Pro Ser Gly Gly
65 70 75 80

Ala Ser Ser Thr Arg Ala Pro Thr Gly Ser Thr Cys Gly Arg Trp Thr
85 90 95

```
Pro Pro Gly Pro Thr Arg Arg Pro Trp Trp Thr
            100                 105

<210>  461
<211>  115
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 39808 right: 40152 frame: -2 size(aa): 115


<400>  461

Asp Asp Cys Gly Arg Ile Asp Gly Leu Ile Leu Val Gly Gly Val His
1               5                   10                  15

Pro Thr Gln Gly Leu Gly Gln Val Leu Gln Gln Leu Ala Asp Ala Asp
            20                  25                  30

Pro Glu Leu Leu Pro Gly Asp Ser Gln Val Val Glu Ala Val Gly Phe
        35                  40                  45

Ala Pro Asp Arg Gln Val Gly His Ala Ser Thr Val Ala Thr Ser Ser
    50                  55                  60

Arg Pro Arg Ser Gly Pro Pro Gly Pro Pro Cys Arg Pro Arg Arg Arg
65                  70                  75                  80

Pro Pro Ser Ala Gly Arg Ser Gly Arg Cys Pro Cys Arg Arg Cys Ala
                85                  90                  95

Pro Arg Arg Pro Pro Arg Arg Pro Arg Cys Arg Pro Ala Pro Pro Ser
            100                 105                 110

Lys Pro Pro
        115

<210>  462
<211>  424
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 39952 right: 41223 frame: 2 size(aa): 424


<400>  462

Ser Trp Ser Ala Thr Ser Arg Tyr Ser Ala Gly Met Thr Asn Leu Pro
1               5                   10                  15

Ile Arg Gly Glu Thr Asp Ser Leu Asp Asn Leu Ala Val Thr Arg Glu
            20                  25                  30

Glu Phe Arg Val Gly Ile Gly Gln Leu Leu Glu Tyr Leu Ala Gln Ala
        35                  40                  45
```

```
Leu Gly Gly Val Asp Thr Thr Tyr Glu Asp Gln Pro Val Asp Pro Thr
    50                  55                  60

Ala Val Val Leu Gln Gly Glu Pro Val Leu Asp Ile Asp Ala Val Pro
65                  70                  75                  80

Glu Ala Ala Asp Asp Ser Leu Arg Val Pro Ser Thr Ser Trp Val Gln
                85                  90                  95

Asp Glu Ile Ala Gly Leu Leu Asp Asp Tyr Val Ala Lys Thr Gly Gly
            100                 105                 110

Val Met Thr Gly Asp Leu Arg Val Pro Ser Leu Asn Gly Gly Ala Leu
        115                 120                 125

Ala Gly Leu Arg Asn Met Leu Ile Asn Gly Asp Phe Arg Ile Asp Gln
    130                 135                 140

Arg Asn Thr Gly Gly Ala Tyr Gly Leu Thr Ala Gly Ala Ala Phe Ile
145                 150                 155                 160

Tyr Gly Ala Asp Arg Trp Leu Gly Phe Cys Ser Gly Ala Asn Val Ser
                165                 170                 175

Ala Gln Arg Ile Thr Val Ala Gly Thr Gln Val Asp Pro Asn Arg Met
            180                 185                 190

Gln Phe Asn Gly Ala Ala Ser Val Thr Ala Ile Gly Ile Gly Gln Arg
        195                 200                 205

Ile Glu Ala Ala Ser Ser Arg His Leu Ala Gly Arg Gln Ala Thr Leu
    210                 215                 220

Ser Ala Asn Phe Ser Asn Ser Leu Leu Thr Thr Val Ser Trp Glu Ala
225                 230                 235                 240

Phe Tyr Ala Asn Ser Ser Asp Ser Phe Gly Thr Arg Ala Ser Pro Thr
                245                 250                 255

Arg Thr Ser Phe Ala Ser Gly Thr Phe Ala Val Thr Ser Ser Tyr Thr
            260                 265                 270

Arg Tyr Ser Ala Thr Phe Asp Val Pro Ala Ala Ala Thr Thr Gly Ile
        275                 280                 285

Glu Ile Val Phe Thr Val Gly Ala Gln Thr Ser Gly Thr Trp Val Val
    290                 295                 300

Gly Gln Ala Gln Leu Glu Glu Gly Val Gln Val Thr Pro Phe Glu Arg
305                 310                 315                 320

Arg Pro Leu Gly Leu Glu Thr Ala Leu Cys Gln Arg Tyr Phe Thr Phe
                325                 330                 335

Phe Pro Val Asn Val Arg Ala Ala Ala Pro Gly Ala Gly Ala Leu Tyr
            340                 345                 350

Ala His Ser Val Ser Phe Pro Gln Arg Met Arg Ala Asn Pro Thr Leu
        355                 360                 365

Gly Ser Ile Val Pro Asp Pro Glu Gly Pro Gly Ala Leu Asn Leu Asn
```

370 375 380

Gly Ala Gly Ile Thr Val Thr Gly Ala Thr Thr Tyr Gly Val Leu Val
385 390 395 400

Gln Met Val Val Asn Ser Pro Gly Ala Asp Ser Tyr Tyr Leu His Phe
405 410 415

Arg Ala Ser Ala Thr Ala Glu Leu
420

<210> 463
<211> 181
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 39969 right: 40511 frame: 1 size(aa): 181

<400> 463

Ser Leu Gln Cys Trp His Asp Gln Pro Ala Asp Pro Gly Arg Asn Arg
1 5 10 15

Gln Pro Arg Gln Pro Gly Cys His Pro Gly Gly Val Pro Gly Arg His
20 25 30

Arg Pro Ala Ala Gly Val Pro Gly Pro Gly Pro Gly Trp Gly Gly His
35 40 45

His Leu Arg Gly Ser Ala Arg Arg Ser Asp Arg Ser Arg Pro Thr Gly
50 55 60

Arg Ala Gly Ala Arg His Arg Arg Gly Ala Gly Gly Gly Arg Arg Gln
65 70 75 80

Pro Ala Gly Ala Leu Asp Val Leu Gly Thr Arg Arg Asp Arg Gly Pro
85 90 95

Pro Arg Arg Leu Arg Gly Gln Asp Arg Arg Arg His Asp Arg Arg Pro
100 105 110

Ala Gly Ala Gln Pro Gln Arg Trp Gly Ala Gly Arg Thr Ala Gln His
115 120 125

Ala Asp Gln Arg Arg Phe Pro His Arg Pro Ala Glu His Trp Gly Arg
130 135 140

Leu Trp Pro Asp Gly Arg Gly Ser Phe His Leu Arg Cys Arg Pro Leu
145 150 155 160

Ala Arg Leu Leu Gln Trp Gly Gln Arg Leu Gly Ala Thr His His Gly
165 170 175

Gly Gly His Pro Gly
180

<210> 464
<211> 101

<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 39989 right: 40291 frame: 3 size(aa): 101

<400> 464

Pro Thr Cys Arg Ser Gly Ala Lys Pro Thr Ala Ser Thr Thr Trp Leu
1 5 10 15

Ser Pro Gly Arg Ser Ser Gly Ser Ala Ser Ala Ser Cys Trp Ser Thr
20 25 30

Trp Pro Arg Pro Trp Val Gly Trp Thr Pro Pro Thr Arg Ile Ser Pro
35 40 45

Ser Ile Arg Pro Gln Ser Ser Tyr Arg Ala Ser Arg Cys Ser Thr Ser
50 55 60

Thr Arg Cys Arg Arg Arg Pro Thr Thr Ala Cys Gly Cys Pro Arg Arg
65 70 75 80

Pro Gly Tyr Lys Thr Arg Ser Arg Ala Ser Ser Thr Thr Thr Trp Pro
85 90 95

Arg Pro Ala Ala Ser
100

<210> 465
<211> 83
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 40040 right: 40288 frame: -3 size(aa): 83

<400> 465

Arg Arg Arg Ser Trp Pro Arg Ser Arg Arg Gly Gly Pro Arg Ser Arg
1 5 10 15

Leu Val Pro Arg Thr Ser Arg Ala Pro Ala Gly Cys Arg Arg Pro Pro
20 25 30

Pro Ala Pro Arg Arg Cys Arg Ala Pro Ala Arg Pro Val Gly Arg Leu
35 40 45

Arg Ser Asp Arg Arg Ala Asp Pro Arg Arg Trp Cys Pro Pro His Pro
50 55 60

Gly Pro Gly Pro Gly Thr Pro Ala Ala Gly Arg Cys Arg Pro Gly Thr
65 70 75 80

Pro Pro Gly

<210> 466
<211> 301
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 40156 right: 41058 frame: -2 size(aa): 301

<400> 466

Ala Gln Arg Arg Ile Gly Pro His Pro Leu Trp Glu Ala Asp Ala Val
1 5 10 15

Ser Val Glu Gly Pro Ser Pro Trp Gly Arg Arg Pro Asp Val Asp Arg
20 25 30

Lys Glu Arg Glu Val Ala Leu Ala Lys Gly Cys Phe Gln Pro Lys Arg
35 40 45

Ser Pro Leu Glu Gly Gly Tyr Leu Asp Pro Leu Phe Gln Leu Arg Leu
50 55 60

Thr Asp His Pro Gly Ala Gly Arg Leu Arg Pro Asp Cys Glu Asn Asp
65 70 75 80

Leu Asp Ala Ser Arg Cys Arg Arg Arg His Ile Glu Gly Gly Ala Val
85 90 95

Pro Arg Val Gly Ala Cys Asn Cys Glu Gly Ala Gly Gly Glu Arg Arg
100 105 110

Pro Gly Arg Gly Gly Pro Gly Ala Glu Ala Val Ala Thr Val Cys Val
115 120 125

Glu Arg Leu Pro Arg Asn Ser Gly Glu Glu Ala Val Ala Glu Val Gly
130 135 140

Arg Glu Arg Arg Leu Pro Ala Arg Gln Val Ala Ala Ala Gly Arg Leu
145 150 155 160

Asn Ala Leu Pro Asp Ala Asp Gly Ser Asp Ala Arg Cys Pro Val Glu
165 170 175

Leu His Thr Val Gly Val Asn Leu Gly Ala Arg His Arg Asp Ala Leu
180 185 190

Arg Arg Asp Val Gly Pro Thr Ala Glu Ala Glu Pro Ala Val Gly Thr
195 200 205

Val Asp Glu Ser Cys Pro Gly Arg Gln Ala Ile Gly Ala Pro Ser Val
210 215 220

Pro Leu Val Asp Ala Glu Ile Ala Val Asp Gln His Val Ala Gln Ser
225 230 235 240

Gly Gln Arg Pro Thr Val Glu Ala Gly His Pro Gln Val Ala Gly His
245 250 255

Asp Ala Ala Gly Leu Gly His Val Val Val Glu Glu Ala Arg Asp Leu

260 265 270

Val Leu Tyr Pro Gly Arg Arg Gly His Pro Gln Ala Val Val Gly Arg
275 280 285

Leu Arg His Arg Val Asp Val Glu His Arg Leu Ala Leu
290 295 300

<210> 467
<211> 161
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 40412 right: 40894 frame: 3 size(aa): 161

<400> 467

Arg Pro Gly Gln Leu Ser Ser Thr Val Pro Thr Ala Gly Ser Ala Ser
1 5 10 15

Ala Val Gly Pro Thr Ser Arg Arg Asn Ala Ser Arg Trp Arg Ala Pro
20 25 30

Arg Leu Thr Pro Thr Val Cys Ser Ser Thr Gly Gln Arg Ala Ser Leu
35 40 45

Pro Ser Ala Ser Gly Ser Ala Leu Arg Arg Pro Ala Ala Ala Thr Trp
50 55 60

Arg Ala Gly Arg Arg Arg Ser Arg Pro Thr Ser Ala Thr Ala Ser Ser
65 70 75 80

Pro Leu Phe Arg Gly Arg Arg Ser Thr Gln Thr Val Ala Thr Ala Ser
85 90 95

Ala Pro Gly Pro Pro Leu Pro Gly Arg Leu Ser Pro Pro Ala Pro Ser
100 105 110

Gln Leu Gln Ala Pro Thr Arg Gly Thr Ala Pro Pro Ser Met Cys Arg
115 120 125

Arg Arg Gln Arg Leu Ala Ser Arg Ser Phe Ser Gln Ser Gly Arg Arg
130 135 140

Arg Pro Ala Pro Gly Trp Ser Val Arg Arg Ser Trp Lys Arg Gly Ser
145 150 155 160

Arg

<210> 468
<211> 80
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 40434 right: 40673 frame: -1 size(aa): 80

<400> 468

Asn Ala Ser His Glu Thr Val Val Arg Arg Leu Leu Leu Lys Leu Ala
1 5 10 15

Glu Ser Val Ala Cys Leu Pro Ala Arg Trp Arg Leu Leu Ala Ala Ser
20 25 30

Met Arg Cys Pro Met Pro Met Ala Val Thr Leu Ala Ala Pro Leu Asn
35 40 45

Cys Ile Arg Leu Gly Ser Thr Trp Val Pro Ala Thr Val Met Arg Cys
50 55 60

Ala Glu Thr Leu Ala Pro Leu Gln Lys Pro Ser Gln Arg Ser Ala Pro
65 70 75 80

<210> 469
<211> 135
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 40689 right: 41093 frame: 1 size(aa): 135

<400> 469

Arg Gln Leu Arg His Pro Gly Leu Pro Tyr Pro Asp Val Phe Arg Leu
1 5 10 15

Arg His Leu Arg Ser Tyr Lys Leu Leu His Ala Val Gln Arg His Leu
20 25 30

Arg Cys Ala Gly Gly Gly Asn Asp Trp His Arg Asp Arg Phe His Ser
35 40 45

Arg Gly Ala Asp Val Arg His Leu Gly Gly Arg Ser Gly Ala Val Gly
50 55 60

Arg Gly Gly Pro Gly Asn Pro Leu Arg Ala Ala Thr Ala Trp Ala Gly
65 70 75 80

Asn Ser Pro Leu Pro Ala Leu Leu His Val Leu Ser Gly Gln Arg Gln
85 90 95

Gly Gly Gly Pro Arg Gly Trp Gly Pro Leu Arg Ser Gln Arg Gln Leu
100 105 110

Pro Thr Ala Asp Ala Gly Gln Ser Asp Ala Gly Leu Asn Arg Ala Arg
115 120 125

Ser Gly Arg Pro Trp Gly Ala
130 135

<210> 470
<211> 67
<212> PRT

<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 40898 right: 41098 frame: 3 size(aa): 67

<400> 470

Pro Pro Ser Ser Gly Asp Arg Leu Gly Trp Lys Gln Pro Phe Ala Ser
1 5 10 15

Ala Thr Ser Arg Ser Phe Arg Ser Thr Ser Gly Arg Arg Pro Gln Gly
20 25 30

Leu Gly Pro Ser Thr Leu Thr Ala Ser Ala Ser His Ser Gly Cys Gly
35 40 45

Pro Ile Arg Arg Trp Ala Gln Ser Cys Pro Ile Arg Lys Ala Leu Gly
50 55 60

Arg Leu Thr
65

<210> 471
<211> 53
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 41062 right: 41220 frame: -2 size(aa): 53

<400> 471

Phe Gly Gly Gly Gly Gly Ser Glu Val Gln Val Val Gly Val Arg Pro
1 5 10 15

Gly Gly Val Asp His His Leu His Gln Asp Pro Val Gly Gly Arg Ala
20 25 30

Arg Asp Gly Asp Ala Gly Ala Val Gln Val Lys Arg Pro Arg Ala Phe
35 40 45

Arg Ile Gly His Asp
50

<210> 472
<211> 190
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 41097 right: 41666 frame: 1 size(aa): 190

<400> 472

Leu Glu Arg Arg Arg His His Arg His Gly Arg Asp His Leu Arg Gly

```
1               5                  10                  15

Pro Gly Ala Asp Gly Gly Gln Leu Pro Arg Gly Gly Leu Leu Leu Pro
            20                  25                  30

Ala Leu Gln Ser Leu Arg His Arg Arg Thr Met Ser Tyr Arg Leu Thr
        35                  40                  45

Asp Ser Ser Ser Val Val Arg Leu Ala Asp Gly Ala Thr Ile Pro Ala
    50                  55                  60

Asp Pro Arg Asn Thr Asp Arg Gln Glu Tyr Glu Ala Trp Leu Ala Ala
65                  70                  75                  80

Gly Asn Val Pro Glu Pro Ala Pro Ala Pro Gly Ala Pro Pro Leu Ala
                85                  90                  95

Leu Gly Asp Trp Gly Ala Phe Leu Glu Leu Val Ile Ala Ala Pro Val
            100                 105                 110

Tyr Gln Thr Ile Tyr Ala Gln Ser Ala Gln Ser Leu Pro Val Asn Thr
        115                 120                 125

Ala Phe Thr Ala Ile Ser Gly Ala Leu Val Leu Gly Ala Gly Gly Arg
    130                 135                 140

Pro Asn Leu Ala Gly Leu Gln Ser Gly Val Asp Gln Leu Leu Gln Ala
145                 150                 155                 160

Ala Val Leu Thr Ala Glu Asp Leu Asp Gln Leu Arg Asp Ile Ala Glu
                165                 170                 175

Gln Thr Gly Ile Pro Leu Gln Ile Pro Thr Pro Thr Pro Gln
            180                 185                 190

<210>  473
<211>  152
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 41102 right: 41557 frame: 3 size(aa): 152


<400>  473

Thr Ala Pro Ala Ser Pro Ser Arg Ala Arg Pro Pro Thr Gly Ser Trp
1               5                  10                  15

Cys Arg Trp Trp Ser Thr Pro Pro Gly Arg Thr Pro Thr Thr Cys Thr
            20                  25                  30

Ser Glu Pro Pro Pro Pro Pro Asn Tyr Glu Leu Pro Ser Asp Arg Phe
        35                  40                  45

Gln Gln Arg Arg Pro Ser Arg Arg Arg Arg His His Pro Arg Arg Pro
    50                  55                  60

Pro Gln His Arg Pro Ala Gly Ile Arg Gly Met Ala Gly Arg Arg Glu
65                  70                  75                  80
```

```
Arg Pro Gly Ala Cys Pro Gly Thr Gly Gly Ala Pro Ala Arg Pro Gly
                85                  90                  95

Arg Leu Gly Gly Leu Pro Gly Ala Arg Asp Arg Arg Pro Gly Leu Pro
            100                 105                 110

Asp Asp Leu Arg Pro Val Gly Ala Val Ala Ala Gly Glu Tyr Arg Leu
        115                 120                 125

His Arg His Leu Gly Gly Pro Gly Val Gly Arg Arg Gly Ala Pro Gln
    130                 135                 140

Pro Gly Arg Pro Thr Val Gly Cys
145                 150
```

<210> 474
<211> 118
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 41190 right: 41543 frame: -1 size(aa): 118

<400> 474

```
Ala Gly Gln Val Gly Ala Pro Pro Gly Ala Gln His Gln Gly Pro Arg
1               5                   10                  15

Asp Gly Gly Glu Gly Gly Ile His Arg Gln Arg Leu Arg Arg Leu Gly
            20                  25                  30

Val Asp Arg Leu Val Asp Arg Gly Gly Asp His Glu Leu Gln Glu Gly
        35                  40                  45

Pro Pro Ile Ala Gln Gly Glu Arg Gly Arg Pro Arg Cys Arg Gly Arg
    50                  55                  60

Leu Arg Asp Val Pro Gly Gly Gln Pro Cys Leu Val Phe Leu Pro Val
65                  70                  75                  80

Gly Val Ala Gly Val Gly Gly Asp Gly Gly Ala Val Gly Glu Thr Asp
                85                  90                  95

Asp Ala Ala Gly Ile Gly Gln Thr Val Ala His Ser Ser Ala Val Ala
            100                 105                 110

Glu Ala Leu Lys Cys Arg
        115
```

<210> 475
<211> 87
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 41224 right: 41484 frame: -2 size(aa): 87

<400> 475

Arg Arg Tyr Ser Pro Ala Ala Thr Ala Pro Thr Gly Arg Arg Ser Ser
1 5 10 15

Gly Arg Pro Gly Arg Arg Ser Arg Ala Pro Gly Arg Pro Pro Asn Arg
20 25 30

Pro Gly Arg Ala Gly Ala Pro Pro Val Pro Gly Gln Ala Pro Gly Arg
35 40 45

Ser Arg Arg Pro Ala Met Pro Arg Ile Pro Ala Gly Arg Cys Cys Gly
50 55 60

Gly Arg Arg Gly Trp Trp Arg Arg Arg Arg Asp Gly Arg Arg Cys Trp
65 70 75 80

Asn Arg Ser Asp Gly Ser Ser
85

<210> 476
<211> 67
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 41231 right: 41431 frame: -3 size(aa): 67

<400> 476

Thr Gly Ala Ala Ile Thr Ser Ser Arg Lys Ala Pro Gln Ser Pro Arg
1 5 10 15

Ala Ser Gly Gly Ala Pro Gly Ala Gly Ala Gly Ser Gly Thr Phe Pro
20 25 30

Ala Ala Ser His Ala Ser Tyr Ser Cys Arg Ser Val Leu Arg Gly Ser
35 40 45

Ala Gly Met Val Ala Pro Ser Ala Arg Arg Thr Thr Leu Leu Glu Ser
50 55 60

Val Arg Arg
65

<210> 477
<211> 59
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 41239 right: 41415 frame: 2 size(aa): 59

<400> 477

Pro Ile Pro Ala Ala Ser Ser Val Ser Pro Thr Ala Pro Pro Ser Pro

1 5 10 15

Pro Thr Pro Ala Thr Pro Thr Gly Arg Asn Thr Arg His Gly Trp Pro
20 25 30

Pro Gly Thr Ser Arg Ser Leu Pro Arg His Arg Gly Arg Pro Arg Ser
35 40 45

Pro Trp Ala Ile Gly Gly Pro Ser Trp Ser Ser
50 55

<210> 478
<211> 594
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 41447 right: 43228 frame: -3 size(aa): 594

<400> 478

Val Pro Leu Val Ala Leu Thr Ala Gly Asp Ile Asp Val Asp Asn Glu
1 5 10 15

Asp Val Arg Arg His Gln Gly Arg Gln His Gly Gln Gln Asp Gly Gly
20 25 30

Glu Pro Gly Arg Ser Ile His Glu Trp Ala Gly Ser Leu Gly Ala Leu
35 40 45

Gly His Gly Thr Gln Ala Pro Ile Asp Ser Glu Leu Pro Arg Ile Ile
50 55 60

Cys Pro Gln Pro Ala Asp Glu Arg Leu Glu Ile Gly Gln Gly Pro Glu
65 70 75 80

Ala Asp Ala Ala Gly Arg Pro Gly Glu His Val Leu Val Thr Val Gln
85 90 95

Val Ser Phe Asp Gly Arg Ala Ser Gly Leu Ala Arg Ala Lys Pro Gly
100 105 110

Glu Arg His Arg Arg Gly Ala Gln Ala Leu Ala Pro Ala Gly Val Ile
115 120 125

Val Val Phe Ala Ala Gly Pro Gly Asp Val Leu Asp Ala Pro Glu Pro
130 135 140

Leu Arg Asp Arg Leu His Ala Ala Ala Leu Ala Ala Gly Pro Gly Ala
145 150 155 160

Glu Asp Leu Val Pro Gly Leu Ala Ala Asp Gly Gln Glu Ile Ala Leu
165 170 175

Gly Asp Ala Ala Val His Pro Leu Glu Ala Gln Glu Leu Glu Ala Pro
180 185 190

Ala Val Asp Leu Pro Gly Ala Gly Gln Glu Glu Ser Gly Leu Leu Gly
195 200 205

```
Leu Gly Arg Pro Ala Pro Gln Val Ala Leu Gly His Pro Ala Val Pro
    210                 215                 220

Glu Pro Leu Leu Asp Val Ala Ala Gly Val Asp Val Gln Glu His Arg
225                 230                 235                 240

Pro Gly His Leu Arg Glu Leu Ala Leu Gly Glu Leu Gly Arg Gln Gly
                245                 250                 255

Gly Val Ala Val Gly Gly Pro Val Pro Val Pro Ala Cys Val Val Gly
            260                 265                 270

Glu Arg Gln Glu Gly Gly Leu Leu Val Gly Gly Glu Leu Gly Pro Val
        275                 280                 285

Gly Asp Gly Leu Gly Gln Gly Arg Leu Val Leu Leu Asp Pro Gly Ala
    290                 295                 300

Gln His Leu Val Gly Leu Arg Cys Gly Asp Arg Val Ala Leu Ala Asp
305                 310                 315                 320

Arg Pro Ala Val Gly His Pro Gly Ala Ala Pro Ala Asp Arg Pro Gly
                325                 330                 335

Ile Ala Leu Gly Ala Gly Val Gly Ile Gly Leu Glu Leu Ala Pro Leu
            340                 345                 350

Glu Gln Leu Asp Gln Gly Gln Gly Pro Ile His Arg Phe Arg Gly Val
        355                 360                 365

Gly Leu Ala Val Ala Ala Gly Pro Gly Gly Val Leu Val Glu His Leu
    370                 375                 380

Leu Gly Gly His Pro Leu Gly Asp Gly Val Lys Gln His Arg Gly Thr
385                 390                 395                 400

Gly Asp Leu Val Gly Leu Pro Leu Glu Glu Pro Glu Pro Val Glu Glu
                405                 410                 415

Pro Ala Leu Arg His Arg Pro Arg His Arg Ser Ala Pro Gln Leu Gly
            420                 425                 430

Asp Leu Val Ala Gln Gly Leu Gln Val Leu Thr Asp Gly Leu Asp Leu
        435                 440                 445

Leu Val Leu Ala Ala Gln Gly Ala Gly His Gly Asp Gln Leu Gly Glu
    450                 455                 460

Arg Leu Gln Asp Ala Val Glu Pro Leu Glu Pro Ala Thr Gln Glu Gly
465                 470                 475                 480

Gln Glu Leu Val Glu Gly Glu Gln His Gln Glu Asp His Ala Gln Gly
                485                 490                 495

Val Glu Ala Ala Asp Ile Gly Thr Gly Arg Gly Gly Glu Arg Ala Asp
            500                 505                 510

Leu Leu Asp Gln Gly Leu Glu Arg His Cys Gly Val Gly Val Gly Ile
        515                 520                 525
```

Cys Arg Gly Met Pro Val Cys Ser Ala Met Ser Arg Ser Trp Ser Arg
530 535 540

Ser Ser Ala Val Arg Thr Ala Ala Cys Ser Ser Trp Ser Thr Pro Asp
545 550 555 560

Cys Arg Pro Ala Arg Leu Gly Arg Pro Pro Ala Pro Asn Thr Arg Ala
565 570 575

Pro Glu Met Ala Val Lys Ala Val Phe Thr Gly Ser Asp Cys Ala Asp
580 585 590

Trp Ala

<210> 479
<211> 161
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 41488 right: 41970 frame: -2 size(aa): 161

<400> 479

Asp Ile Gly Arg Val Ile Ala Gln Arg Pro Ser Leu Glu Ile Trp Ser
1 5 10 15

Arg Arg Asp Ser Arg Ser Leu Arg Met Ala Ser Ile Cys Ser Ser Ser
20 25 30

Arg Arg Arg Gly Arg Ala Met Ala Thr Ser Trp Val Asn Asp Cys Arg
35 40 45

Thr Pro Leu Asn Arg Leu Asn Arg Pro Pro Arg Lys Gly Arg Ser Ser
50 55 60

Ser Arg Ala Asn Ser Thr Arg Lys Thr Thr Pro Arg Gly Ser Arg Leu
65 70 75 80

Pro Thr Ser Ala Pro Val Gly Ala Gly Ser Gly Leu Ile Cys Trp Thr
85 90 95

Arg Asp Trp Ser Val Ile Ala Gly Trp Gly Trp Gly Ser Ala Gly Gly
100 105 110

Cys Arg Ser Ala Arg Arg Cys Arg Ala Ala Gly Pro Gly Leu Arg Arg
115 120 125

Ser Gly Pro Gln Pro Ala Ala Ala Gly Gln His Pro Thr Val Gly Arg
130 135 140

Pro Gly Trp Gly Ala Pro Arg Arg Pro Thr Pro Gly Pro Pro Arg Trp
145 150 155 160

Arg

<210> 480

<211> 129
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 41561 right: 41947 frame: 3 size(aa): 129

<400> 480

Pro Ala Ala Ala Gly Cys Gly Pro Asp Arg Arg Arg Pro Gly Pro Ala
1 5 10 15

Ala Arg His Arg Arg Ala Asp Arg His Pro Pro Ala Asp Pro His Pro
20 25 30

His Pro Ala Met Thr Leu Gln Ser Leu Val Gln Gln Ile Ser Pro Leu
35 40 45

Pro Ala Pro Thr Gly Ala Asp Val Gly Ser Leu Asp Pro Leu Gly Val
50 55 60

Val Phe Leu Val Leu Phe Ala Leu Asp Glu Leu Leu Pro Phe Leu Gly
65 70 75 80

Gly Arg Phe Lys Arg Phe Asn Gly Val Leu Gln Ser Phe Thr Gln Leu
85 90 95

Val Ala Met Ala Arg Pro Leu Arg Arg Glu Asp Glu Gln Ile Glu Ala
100 105 110

Ile Arg Lys Asp Leu Glu Ser Leu Arg Asp Gln Ile Ser Lys Leu Gly
115 120 125

Arg

<210> 481
<211> 105
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 41587 right: 41901 frame: 2 size(aa): 105

<400> 481

Pro Pro Lys Thr Trp Thr Ser Cys Ala Thr Ser Pro Ser Arg Pro Ala
1 5 10 15

Ser Pro Cys Arg Ser Pro Pro Pro Pro Arg Asn Asp Ala Pro Ile Pro
20 25 30

Gly Pro Thr Asp Gln Pro Ala Pro Arg Pro Asp Arg Cys Arg Cys Arg
35 40 45

Gln Pro Arg Pro Pro Gly Arg Gly Leu Pro Gly Ala Val Arg Pro Arg
50 55 60

```
Arg Ala Pro Ala Leu Pro Gly Trp Pro Val Gln Ala Val Gln Arg Arg
65                  70                  75                  80

Pro Ala Val Val His Pro Ala Gly Arg His Gly Pro Pro Pro Ala Pro
                85                  90                  95

Arg Gly Arg Ala Asp Arg Gly His Pro
            100                 105
```

<210> 482
<211> 95
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 41670 right: 41954 frame: 1 size(aa): 95

<400> 482

```
Arg Ser Asn Pro Trp Ser Asn Arg Ser Ala Arg Ser Pro Pro Arg Pro
1               5                   10                  15

Val Pro Met Ser Ala Ala Ser Thr Pro Trp Ala Trp Ser Ser Trp Cys
            20                  25                  30

Cys Ser Pro Ser Thr Ser Ser Cys Pro Ser Trp Val Ala Gly Ser Ser
        35                  40                  45

Gly Ser Thr Ala Ser Cys Ser Arg Ser Pro Ser Trp Ser Pro Trp Pro
    50                  55                  60

Ala Pro Cys Ala Ala Arg Thr Ser Arg Ser Arg Pro Ser Val Arg Thr
65                  70                  75                  80

Trp Ser Pro Cys Ala Thr Arg Ser Pro Ser Trp Gly Ala Glu Arg
                85                  90                  95
```

<210> 483
<211> 115
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 41841 right: 42185 frame: -1 size(aa): 115

<400> 483

```
Ala Arg Ala Pro Arg Thr Ala Gly Ser Gly Ala Gly Pro Asp Pro Pro
1               5                   10                  15

Ile Ser Arg Cys Trp Ala Gly Cys Ser Gly Gly Pro Arg Gly Arg Pro
            20                  25                  30

Arg Arg Ala Pro Ala Arg Arg Ala Pro Pro Gly Arg Trp Arg Gln Thr
        35                  40                  45
```

Ala Ser Arg His Arg Arg Pro Gly Gly Ala Pro Pro Arg Arg Thr Gly
50 55 60

Thr Gly Arg Gly Thr Gly Phe Glu Thr Ser Ala Ala Ser Ser Leu Ser
65 70 75 80

Ala Pro Ala Trp Arg Ser Gly Arg Ala Gly Thr Pro Gly Pro Tyr Gly
85 90 95

Trp Pro Arg Ser Ala Arg Pro Arg Gly Ala Gly Gly Gly Pro Trp Arg
100 105 110

Pro Ala Gly
115

<210> 484
<211> 381
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 41951 right: 43093 frame: 3 size(aa): 381

<400> 484

Ala Met Thr Arg Pro Met Ser Gln Ser Arg Phe Leu Asp Arg Phe Arg
1 5 10 15

Phe Phe Glu Gly Glu Pro His Gln Val Ser Gly Ala Ser Met Leu Phe
20 25 30

Asp Ala Ile Ser Gln Gly Val Pro Ala Glu Gln Val Leu Asp Glu Asp
35 40 45

Ala Pro Trp Ala Arg Arg Tyr Ser Gln Pro Asn Thr Ser Lys Ser Val
50 55 60

Asp Arg Ala Leu Pro Leu Ile Gln Leu Phe Glu Gly Arg Glu Leu Lys
65 70 75 80

Ala Tyr Pro Asp Pro Gly Thr Lys Gly Asp Pro Trp Thr Ile Gly Trp
85 90 95

Gly Ser Thr Arg Met Pro Asp Gly Arg Pro Val Arg Lys Gly Asp Thr
100 105 110

Val Thr Ala Ala Gln Ala Asp Gln Met Leu Arg Thr Trp Val Glu Gln
115 120 125

Asp Glu Ala Ala Leu Ala Lys Ala Ile Pro Asn Trp Ala Lys Leu Thr
130 135 140

Thr Asp Gln Gln Ala Ala Leu Leu Ser Phe Thr Tyr Asn Ala Gly Arg
145 150 155 160

Asp Trp Tyr Gly Pro Ser Asn Gly Tyr Ala Thr Leu Ser Ala Lys Leu
165 170 175

Ala Glu Gly Lys Leu Ser Glu Val Pro Arg Ala Met Leu Leu Tyr Val

180 185 190

Asn Pro Gly Ser Asp Val Glu Glu Gly Leu Arg Asn Arg Arg Met Ala
195 200 205

Glu Gly Asp Leu Trp Gly Arg Pro Pro Gln Ala Gln Lys Pro Arg Leu
210 215 220

Leu Leu Thr Arg Thr Arg Gln Ile Asp Gly Arg Gly Leu Glu Leu Leu
225 230 235 240

Arg Leu Gln Arg Met His Gly Ser Val Ser Lys Gly Asp Leu Leu Thr
245 250 255

Val Ser Gly Gln Ala Arg Asn Gln Val Phe Arg Thr Gly Ala Ser Ser
260 265 270

Lys Ser Gly Ser Met Glu Pro Ile Pro Glu Gly Leu Trp Arg Val Glu
275 280 285

Asn Ile Ala Trp Ala Gly Gly Lys Asp Asn Tyr Asn Ala Ser Trp Gly
290 295 300

Glu Gly Leu Gly Pro Ala Ser Val Pro Leu Thr Trp Leu Gly Pro Gly
305 310 315 320

Lys Thr Gly Arg Ser Ala Ile Glu Ala His Leu Asp Ser Asn Gln Asn
325 330 335

Val Phe Pro Gly Thr Ala Gly Cys Ile Gly Phe Arg Ser Leu Ala Asp
340 345 350

Leu Gln Thr Phe Ile Gly Trp Leu Arg Ala Asp Asp Pro Arg Glu Leu
355 360 365

Thr Val Asp Trp Gly Leu Gly Thr Val Pro Lys Arg Pro
370 375 380

<210> 485
<211> 67
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 41958 right: 42158 frame: 1 size(aa): 67

<400> 485

Arg Gly Arg Cys Leu Lys Ala Gly Ser Ser Thr Gly Ser Gly Ser Ser
1 5 10 15

Arg Gly Ser Pro Thr Arg Ser Pro Val Pro Arg Cys Cys Leu Thr Pro
20 25 30

Ser Pro Arg Gly Cys Pro Pro Ser Arg Cys Ser Thr Arg Thr Pro Pro
35 40 45

Gly Pro Ala Ala Thr Ala Ser Pro Thr Pro Arg Asn Arg Trp Ile Gly
50 55 60

Pro Cys Pro
65

<210> 486
<211> 266
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 42049 right: 42846 frame: 2 size(aa): 266

<400> 486

Arg His Leu Pro Gly Gly Ala Arg Arg Ala Gly Ala Arg Arg Gly Arg
1 5 10 15

Pro Leu Gly Pro Pro Leu Gln Pro Ala Gln His Leu Glu Ile Gly Gly
20 25 30

Ser Gly Pro Ala Pro Asp Pro Ala Val Arg Gly Ala Arg Ala Gln Gly
35 40 45

Leu Ser Arg Pro Arg His Gln Gly Arg Ser Leu Asp Asp Arg Leu Gly
50 55 60

Gln His Pro Asp Ala Arg Arg Pro Ala Gly Pro Gln Gly Arg His Gly
65 70 75 80

His Arg Ser Ala Gly Arg Pro Asp Ala Ala His Leu Gly Arg Ala Gly
85 90 95

Arg Gly Gly Pro Gly Gln Gly His Pro Gln Leu Gly Gln Ala His His
100 105 110

Arg Pro Ala Gly Arg Pro Pro Val Val His Leu Gln Arg Arg Pro Gly
115 120 125

Leu Val Arg Ala Leu Gln Arg Leu Arg His Pro Val Gly Gln Ala Arg
130 135 140

Arg Gly Gln Ala Leu Gly Gly Ala Pro Gly Asp Ala Pro Val Arg Gln
145 150 155 160

Pro Arg Gln Arg Arg Arg Gly Gly Ala Pro Glu Pro Pro Asp Gly Arg
165 170 175

Gly Arg Pro Val Gly Pro Ala Ala Pro Gly Pro Glu Ala Gln Thr Pro
180 185 190

Pro Asp Pro His Pro Ala Asp Arg Arg Pro Gly Pro Arg Ala Pro Ala
195 200 205

Pro Pro Ala Asp Ala Arg Gln Arg Leu Gln Gly Arg Ser Pro Asp Arg
210 215 220

Gln Arg Pro Gly Pro Glu Pro Gly Leu Pro His Arg Gly Gln Gln Gln
225 230 235 240

```
Glu Arg Gln His Gly Ala Asp Pro Gly Gly Ala Leu Ala Arg Arg Glu
                245                 250                 255

His Arg Leu Gly Arg Arg Gln Arg Gln Leu
            260                 265

<210>  487
<211>  155
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 42162 right: 42626 frame: 1 size(aa): 155


<400>  487

Ser Ser Cys Ser Arg Gly Ala Ser Ser Arg Pro Ile Pro Thr Pro Ala
1               5                   10                  15

Pro Arg Ala Ile Pro Gly Arg Ser Ala Gly Ala Ala Pro Gly Cys Pro
            20                  25                  30

Thr Ala Gly Arg Ser Ala Arg Ala Thr Arg Ser Pro Gln Arg Arg Pro
        35                  40                  45

Thr Arg Cys Cys Ala Pro Gly Ser Ser Arg Thr Arg Arg Pro Trp Pro
    50                  55                  60

Arg Pro Ser Pro Thr Gly Pro Ser Ser Pro Pro Thr Ser Arg Pro Pro
65                  70                  75                  80

Ser Cys Arg Ser Pro Thr Thr Gln Ala Gly Thr Gly Thr Gly Pro Pro
                85                  90                  95

Thr Ala Thr Pro Pro Cys Arg Pro Ser Ser Pro Arg Ala Ser Ser Arg
            100                 105                 110

Arg Cys Pro Gly Arg Cys Ser Cys Thr Ser Thr Pro Ala Ala Thr Ser
        115                 120                 125

Arg Arg Gly Ser Gly Thr Ala Gly Trp Pro Arg Ala Thr Cys Gly Ala
    130                 135                 140

Gly Arg Pro Arg Pro Arg Ser Pro Asp Ser Ser
145                 150                 155

<210>  488
<211>  73
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 42196 right: 42414 frame: -2 size(aa): 73


<400>  488

Val Asn Asp Arg Arg Ala Ala Cys Trp Ser Val Val Ser Leu Ala Gln
```

1 5 10 15

Leu Gly Met Ala Leu Ala Arg Ala Ala Ser Ser Cys Ser Thr Gln Val
20 25 30

Arg Ser Ile Trp Ser Ala Cys Ala Ala Val Thr Val Ser Pro Leu Arg
35 40 45

Thr Gly Arg Pro Ser Gly Ile Arg Val Leu Pro Gln Pro Ile Val Gln
50 55 60

Gly Ser Pro Leu Val Pro Gly Ser Gly
65 70

<210> 489
<211> 129
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 42457 right: 42843 frame: -2 size(aa): 129

<400> 489

Leu Ser Leu Pro Pro Ala Gln Ala Met Phe Ser Thr Arg Gln Ser Pro
1 5 10 15

Ser Gly Ile Gly Ser Met Leu Pro Leu Leu Leu Leu Ala Pro Val Arg
20 25 30

Lys Thr Trp Phe Arg Ala Trp Pro Leu Thr Val Arg Arg Ser Pro Leu
35 40 45

Glu Thr Leu Pro Cys Ile Arg Trp Arg Arg Arg Ser Ser Arg Pro Arg
50 55 60

Pro Ser Ile Cys Arg Val Arg Val Arg Arg Ser Leu Gly Phe Trp Ala
65 70 75 80

Trp Gly Gly Arg Pro His Arg Ser Pro Ser Ala Ile Arg Arg Phe Arg
85 90 95

Ser Pro Ser Ser Thr Ser Leu Pro Gly Leu Thr Tyr Arg Ser Ile Ala
100 105 110

Arg Gly Thr Ser Glu Ser Leu Pro Ser Ala Ser Leu Ala Asp Arg Val
115 120 125

Ala

<210> 490
<211> 64
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 42528 right: 42719 frame: -1 size(aa): 64

<400> 490

Arg Ser Gly Asp Arg Pro Trp Arg Arg Cys Arg Ala Ser Ala Gly Gly
1 5 10 15

Ala Gly Ala Arg Gly Pro Gly Arg Arg Ser Ala Gly Cys Gly Ser Gly
20 25 30

Gly Val Trp Ala Ser Gly Pro Gly Ala Ala Gly Pro Thr Gly Arg Pro
35 40 45

Arg Pro Ser Gly Gly Ser Gly Ala Pro Pro Arg Arg Arg Cys Arg Gly
50 55 60

<210> 491
<211> 132
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 42717 right: 43112 frame: 1 size(aa): 132

<400> 491

Pro Ser Ala Ala Arg Pro Gly Thr Arg Ser Ser Ala Pro Gly Pro Ala
1 5 10 15

Ala Arg Ala Ala Ala Trp Ser Arg Ser Arg Arg Gly Ser Gly Ala Ser
20 25 30

Arg Thr Ser Pro Gly Pro Ala Ala Lys Thr Thr Ile Thr Pro Ala Gly
35 40 45

Ala Arg Ala Trp Ala Pro Arg Arg Cys Arg Ser Pro Gly Leu Ala Leu
50 55 60

Ala Arg Pro Asp Ala Arg Pro Ser Lys Leu Thr Trp Thr Val Thr Lys
65 70 75 80

Thr Cys Ser Pro Gly Arg Pro Ala Ala Ser Ala Ser Gly Pro Trp Pro
85 90 95

Ile Ser Arg Arg Ser Ser Ala Gly Cys Gly Gln Met Ile Leu Gly Ser
100 105 110

Ser Leu Ser Ile Gly Ala Trp Val Pro Cys Pro Ser Ala Pro Asn Asp
115 120 125

Pro Ala His Ser
130

<210> 492
<211> 56
<212> PRT
<213> Cyanophage S-2L

<220>

<221> misc_feature
<223> New ORF = left: 42723 right: 42890 frame: -1 size(aa): 56

<400> 492

Ala Ala Pro Thr Arg Gly Pro Gly Pro Arg Pro Ser Trp Arg Tyr Ser
1 5 10 15

Cys Leu Cys Arg Arg Pro Arg Arg Cys Ser Arg Arg Ala Arg Ala Pro
20 25 30

Pro Gly Ser Ala Pro Cys Cys Arg Ser Cys Cys Trp Pro Arg Cys Gly
35 40 45

Arg Pro Gly Ser Gly Pro Gly Arg
50 55

<210> 493
<211> 51
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 42940 right: 43092 frame: -2 size(aa): 51

<400> 493

Gly Arg Leu Gly Thr Val Pro Arg Pro Gln Ser Thr Val Ser Ser Arg
1 5 10 15

Gly Ser Ser Ala Arg Ser Gln Pro Met Asn Val Trp Arg Ser Ala Arg
20 25 30

Asp Arg Lys Pro Met Gln Pro Ala Val Pro Gly Asn Thr Phe Trp Leu
35 40 45

Leu Ser Arg
50

<210> 494
<211> 110
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 43097 right: 43426 frame: 3 size(aa): 110

<400> 494

Arg Pro Arg Pro Phe Val Asn Arg Pro Ala Trp Phe Ser Ala Ile Leu
1 5 10 15

Leu Thr Met Leu Ala Ala Leu Met Thr Ala His Ile Leu Val Ile His
20 25 30

Val Asp Val Ala Ser Cys Gln Ser His Lys Arg Tyr Leu Leu Glu Gln

35 40 45

Arg Arg Thr Gly Ser Leu Pro Gln Glu Leu Arg Asn Val Pro Asp Leu
50 55 60

Val Glu Ala Glu Cys Ala Asp Leu Glu Gly Lys Phe Arg Ser Val Val
65 70 75 80

Asp Gln Trp Val Ser Val Ile Leu Ser Leu Leu Gly Gly Ala Gly Val
85 90 95

Ala Ala Ala Met Gly Lys Pro Pro Thr Asp Gln Pro Gly Arg
100 105 110

<210> 495
<211> 172
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 43120 right: 43635 frame: 2 size(aa): 172

<400> 495

Thr Gly Leu Val Leu Arg His Pro Ala Asp His Ala Gly Gly Pro Asp
1 5 10 15

Asp Gly Ala His Pro Arg Tyr Pro Arg Arg Cys Arg Gln Leu Ser Glu
20 25 30

Pro Gln Ala Val Pro Thr Arg Ala Ala Pro His Arg Gln Pro Ala Pro
35 40 45

Gly Ala Pro Glu Arg Ala Arg Pro Gly Gly Gly Gly Met Arg Arg Pro
50 55 60

Gly Gly Gln Val Ser Glu Arg Arg Gly Pro Val Gly Val Gly Asp Leu
65 70 75 80

Glu Ser Ala Arg Trp Arg Gly Gly Arg Arg Gly His Gly Gln Thr Ala
85 90 95

Asp Gly Ser Ala Gly Ala Leu Thr Pro Asp Ala His Gln Gly Ser His
100 105 110

Gln Ala Glu Arg Gln Tyr Glu Arg Gly Glu Asp His Gly Thr Ser Gly
115 120 125

Gly Ile Val Gly His Ala Arg Ala Arg Glu Arg Arg Arg Cys Arg Leu
130 135 140

Pro Ser Gly Thr Gln Pro Ser Gly Pro Met Pro Ser Ser Leu Thr Gly
145 150 155 160

Thr His Thr Thr Pro Gly Arg Arg Trp Gln Asp Pro
165 170

<210> 496
<211> 61

<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 43170 right: 43352 frame: 1 size(aa): 61

<400> 496

Arg Arg Thr Ser Ser Leu Ser Thr Ser Met Ser Pro Ala Val Arg Ala
1 5 10 15

Thr Ser Gly Thr Tyr Ser Ser Ser Ala Ala Pro Ala Ala Cys Pro Arg
20 25 30

Ser Ser Gly Thr Cys Pro Thr Trp Trp Arg Arg Asn Ala Pro Thr Trp
35 40 45

Arg Ala Ser Phe Gly Ala Ser Trp Thr Ser Gly Cys Arg
50 55 60

<210> 497
<211> 84
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 43188 right: 43439 frame: -1 size(aa): 84

<400> 497

Ala Ser Gly Val Asn Ala Pro Ala Asp Pro Ser Ala Val Cys Pro Trp
1 5 10 15

Pro Arg Arg Pro Pro Arg His Arg Ala Asp Ser Arg Ser Pro Thr Pro
20 25 30

Thr Gly Pro Arg Arg Ser Glu Thr Cys Pro Pro Gly Arg Arg Ile Pro
35 40 45

Pro Pro Pro Gly Arg Ala Arg Ser Gly Ala Pro Gly Ala Gly Cys Arg
50 55 60

Cys Gly Ala Ala Arg Val Gly Thr Ala Cys Gly Ser Asp Ser Trp Arg
65 70 75 80

His Arg Arg Gly

<210> 498
<211> 67
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 43213 right: 43413 frame: -2 size(aa): 67

<400> 498

Ser Val Gly Gly Leu Pro Met Ala Ala Ala Thr Pro Ala Pro Pro Ser
1 5 10 15

Arg Leu Lys Ile Thr Asp Thr His Trp Ser Thr Thr Leu Arg Asn Leu
20 25 30

Pro Ser Arg Ser Ala His Ser Ala Ser Thr Arg Ser Gly Thr Phe Arg
35 40 45

Ser Ser Trp Gly Arg Leu Pro Val Arg Arg Cys Ser Ser Arg Tyr Arg
50 55 60

Leu Trp Leu
65

<210> 499
<211> 88
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 43213 right: 43413 frame: -2 size(aa): 67

<400> 499

Ser His Gly Leu Arg Leu Ala Arg Thr Val Ser Arg Pro Asp Gly Cys
1 5 10 15

Pro Gly Glu His Leu Gly Ser Thr Pro Arg Leu Ile Arg Arg Arg Phe
20 25 30

Ala His Gly Arg Gly Asp Pro Arg Ala Thr Glu Gln Thr Gln Asp His
35 40 45

Arg His Pro Leu Val His Asp Ala Pro Lys Leu Ala Leu Gln Val Gly
50 55 60

Ala Phe Arg Leu His Gln Val Gly His Val Pro Glu Leu Leu Gly Gln
65 70 75 80

Ala Ala Gly Ala Ala Leu Leu Glu
85

<210> 500
<211> 58
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 43417 right: 43590 frame: -2 size(aa): 58

<400> 500

Ala Ala Trp His Gly Ala Arg Trp Leu Gly Ser Thr Gly Glu Ala Ala

1 5 10 15

Pro Ser Pro Leu Ser Gly Ser Arg Met Ser Tyr Asp Pro Ala Ala Ser
20 25 30

Pro Met Val Phe Ala Ser Leu Val Leu Ser Leu Gly Leu Met Ala Ala
35 40 45

Leu Val Ser Ile Trp Gly Gln Arg Pro Gly
50 55

<210> 501
<211> 59
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 43458 right: 43634 frame: -1 size(aa): 59

<400> 501

Gly Ser Cys His Leu Arg Pro Gly Val Val Cys Val Pro Val Lys Leu
1 5 10 15

Leu Gly Met Gly Pro Asp Gly Trp Val Pro Leu Gly Arg Arg His Leu
20 25 30

Arg Arg Ser Leu Ala Arg Ala Cys Pro Thr Ile Pro Pro Leu Val Pro
35 40 45

Trp Ser Ser Pro Arg Ser Tyr Cys Leu Ser Ala
50 55

<210> 502
<211> 111
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 43499 right: 43831 frame: -3 size(aa): 111

<400> 502

Ser Ser Pro Met Ala Arg Ser Pro Thr Thr Cys Pro Ser Gly Thr Ser
1 5 10 15

Pro Thr Ser Arg Pro Pro Gly Leu Ser Ser Ser Arg Thr Pro Pro Ser
20 25 30

Gly Thr Gly Thr Pro Pro Ala Thr Ser Arg Thr Cys Cys Ser Trp Pro
35 40 45

Ser Thr Thr Ala Thr Pro Trp Arg Arg Arg Met His Leu Arg Asp Thr
50 55 60

Leu Lys Asp Pro Ala Thr Ser Val Leu Val Leu Cys Val Phe Leu Leu
65 70 75 80

```
Ser Cys Leu Ala Trp Gly Pro Met Ala Gly Phe His Trp Gly Gly Gly
                85                  90                  95

Thr Phe Ala Ala Leu Trp Leu Ala His Val Leu Arg Ser Arg Arg
            100                 105                 110

<210>  503
<211>  111
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 43500 right: 43832 frame: 1 size(aa): 111


<400>  503

Arg Arg Asp Arg Arg Thr Cys Ala Ser Gln Arg Ala Ala Lys Val Pro
1               5                   10                  15

Pro Pro Gln Trp Asn Pro Ala Ile Gly Pro His Ala Lys Gln Leu Asn
            20                  25                  30

Arg Asn Thr His Asn Thr Arg Thr Glu Val Ala Gly Ser Leu Ser Val
        35                  40                  45

Ser Arg Arg Cys Ile Arg Arg Leu Gln Gly Val Ala Val Val Asp Gly
    50                  55                  60

Gln Glu Gln Gln Val Leu Asp Val Ala Gly Gly Val Pro Val Pro Leu
65                  70                  75                  80

Gly Gly Val Arg Glu Leu Asp Ser Pro Gly Gly Leu Glu Val Gly Asp
                85                  90                  95

Val Pro Asp Gly Gln Val Val Gly Asp Arg Ala Ile Gly Glu Leu
            100                 105                 110

<210>  504
<211>  175
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 43594 right: 44118 frame: -2 size(aa): 175


<400>  504

Ala Trp Pro Pro Ile Ser Arg Thr Lys Ala Thr Arg Pro Pro Thr Pro
1               5                   10                  15

Ser Lys Pro Pro Pro Ser Ser Leu Pro Pro Asp Asp His Pro Pro Gln
            20                  25                  30

Ser Pro Ala Pro Asp Asp Pro Pro Arg His Gln Arg Arg Ala Pro His
        35                  40                  45
```

Val Pro Gly Ala Leu Arg Pro Ser Leu Arg Pro Val Pro Pro Ala His
50 55 60

Gln Val Gly Pro Gly Pro Gly Pro Ala Leu Val Glu Pro Glu Ala Pro
65 70 75 80

Ser Gly Arg Pro Arg Asp Val Pro Glu Pro Gly Gly Arg Arg Ala Arg
85 90 95

Ala Pro Gln Trp Pro Asp His Leu Pro Pro Ala Arg Pro Val His Pro
100 105 110

Pro Pro Gln Gly Arg Arg Gly Cys Arg Ala Leu Glu Arg Pro Pro Val
115 120 125

Glu Arg Ala His His Gln Arg Arg Arg Gly Pro Ala Ala Pro Gly Arg
130 135 140

Gln Arg Arg Arg Pro Pro Gly Gly Gly Gly Cys Thr Cys Val Thr Arg
145 150 155 160

Leu Arg Ile Leu Pro Pro Pro Ser Trp Cys Cys Val Cys Ser Cys
165 170 175

<210> 505
<211> 56
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 43639 right: 43806 frame: 2 size(aa): 56

<400> 505

Ala Cys His Ala Gly Ala Ser Ala Ala Ser Arg Gly Ser Pro Ser Leu
1 5 10 15

Thr Ala Arg Ser Ser Arg Ser Ser Thr Ser Leu Val Val Cys Pro Phe
20 25 30

His Trp Gly Ala Phe Glu Ser Ser Thr Ala Pro Ala Ala Leu Arg Trp
35 40 45

Gly Met Tyr Arg Thr Gly Arg Trp
50 55

<210> 506
<211> 329
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 43647 right: 44633 frame: -1 size(aa): 329

<400> 506

Pro Ala Arg Pro Gly Ala Val Pro Pro Gly Ala Gly Cys Pro Arg Pro

```
1               5                  10                  15

Arg Pro Cys Pro Pro Gly Gly Ala Pro Met Arg Pro Arg Arg Pro Arg
            20                  25                  30

Ser Gly Pro Trp Ala Cys Arg Thr Ala Gln Arg Pro Ser Arg Pro Met
        35                  40                  45

Glu Ala Thr Ser Arg Ala Ser Arg Gly Pro Leu Arg Pro Arg Ala Ser
    50                  55                  60

Leu Arg Pro Ser Ser Ala Pro Gly Ala Ser Val Ala Gly Ser His Pro
65                  70                  75                  80

Thr Ala Pro Pro Pro Met Pro Asp Cys Pro His Phe Thr Thr Ala Gln
                85                  90                  95

Met Leu Gly Leu Glu Thr Ala Leu Gln Cys Ala Trp Glu Asp Leu Arg
            100                 105                 110

Leu Glu Arg Ala Val Gly Cys Ser Pro Lys Gln Ala Ala Thr Tyr Phe
        115                 120                 125

Val Gln His Leu Asp Gly Ser Leu Pro Phe Leu Gln Arg Leu Gly Ala
    130                 135                 140

Thr Arg Ala Arg Arg Ala Gly Arg Ala Arg Ala Val Pro Arg Ala Ala
145                 150                 155                 160

Pro Gly Ala Cys Leu Pro Ser Gln Ser Tyr Ala Glu Arg Gly Arg Pro
                165                 170                 175

Ser Pro Gly Gln Arg Leu His Ala Leu Arg Arg His Pro Asn Arg Leu
            180                 185                 190

Pro Pro Arg Tyr Arg Pro Met Thr Thr Pro Arg Lys Ala Leu Leu Gln
        195                 200                 205

Thr Thr Arg Pro Asp Thr Ser Asp Gly His His Thr Phe Arg Glu Leu
    210                 215                 220

Tyr Ala His Arg Tyr Ala Leu Phe Leu Leu Leu Ile Lys Trp Ala Pro
225                 230                 235                 240

Val Gln Ala Gln Pro Trp Trp Ser Arg Lys His His Leu Ala Gly Pro
                245                 250                 255

Glu Met Tyr Pro Asn Gln Val Val Ala Gly Leu Glu Leu Pro Asn Gly
            260                 265                 270

Pro Ile Thr Tyr His Leu Pro Val Arg Tyr Ile Pro His Leu Lys Ala
        275                 280                 285

Ala Gly Ala Val Glu Leu Ser Asn Ala Pro Gln Trp Asn Gly His Thr
    290                 295                 300

Thr Ser Asp Val Glu Asp Leu Leu Leu Leu Ala Val Asn Asp Gly Asp
305                 310                 315                 320

Pro Leu Glu Ala Ala Asp Ala Pro Ala
                325
```

<210> 507
<211> 67
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 43835 right: 44035 frame: -3 size(aa): 67

<400> 507

Pro Pro Pro Ala Lys Pro Cys Ser Arg Arg Pro Ala Pro Thr Pro Ala
1 5 10 15

Thr Gly Thr Thr Arg Ser Gly Ser Ser Thr Pro Ile Ala Thr Pro Cys
20 25 30

Ser Ser Cys Ser Ser Ser Gly Pro Arg Ser Arg Pro Ser Pro Gly Gly
35 40 45

Ala Gly Ser Thr Ile Trp Pro Ala Gln Arg Cys Thr Arg Thr Arg Trp
50 55 60

Ser Pro Gly
65

<210> 508
<211> 84
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 43836 right: 44087 frame: 1 size(aa): 84

<400> 508

Pro Gly Asp His Leu Val Arg Val His Leu Trp Ala Gly Gln Met Val
1 5 10 15

Leu Pro Ala Pro Pro Gly Leu Gly Leu Asp Arg Gly Pro Leu Asp Glu
20 25 30

Gln Glu Glu Gln Gly Val Ala Met Gly Val Glu Leu Pro Glu Arg Val
35 40 45

Val Pro Val Ala Gly Val Gly Ala Gly Arg Leu Glu Gln Gly Phe Ala
50 55 60

Gly Gly Gly His Arg Ala Val Thr Arg Arg Glu Ala Val Trp Met Ala
65 70 75 80

Ser Glu Gly Val

<210> 509
<211> 142
<212> PRT

<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 43931 right: 44356 frame: 3 size(aa): 142

<400> 509

Ala Gly Gly Thr Gly Arg Ser Asp Gly Arg Arg Ala Pro Gly Thr Cys
1 5 10 15

Gly Ala Arg Arg Trp Cys Arg Gly Gly Ser Ser Gly Ala Gly Leu Cys
20 25 30

Gly Gly Trp Ser Ser Gly Gly Asn Glu Glu Gly Gly Gly Leu Asp Gly
35 40 45

Val Gly Gly Arg Val Ala Phe Val Leu Glu Met Gly Gly His Ala Gln
50 55 60

Arg Lys Ile Glu Thr Val Gly Lys Leu Arg Gly Gln Pro Trp Gly Arg
65 70 75 80

Pro Gly Leu Phe Arg Leu Ala Gly Pro Val Ser Arg Pro Gly Ala Ala
85 90 95

Gly Met Ala Gly Cys Arg Arg Gly Ala Gly Arg Asn Arg Trp Leu Pro
100 105 110

Ala Trp Ala Ser Ser Leu Arg Arg Ala Arg Gly Ala Asp Pro Pro Arg
115 120 125

Arg Ile Gly Gly Arg Phe Arg Gly Pro Ala Ser Gly Arg Trp
130 135 140

<210> 510
<211> 81
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 44039 right: 44281 frame: -3 size(aa): 81

<400> 510

Ala Ala Arg Pro Ser Arg Gln Pro Pro Ile Ser Ser Ser Thr Ser Thr
1 5 10 15

Ala Ala Cys His Ser Cys Ser Ala Trp Ala Arg His Gly Pro Gly Glu
20 25 30

Pro Glu Glu Pro Gly Pro Ser Pro Gly Leu Pro Pro Glu Leu Ala Tyr
35 40 45

Arg Leu Asn Leu Thr Leu Ser Val Ala Ala His Leu Gln Asp Lys Gly
50 55 60

Tyr Thr Pro Ser Asp Ala Ile Gln Thr Ala Ser Leu Leu Val Thr Ala

65 70 75 80

Arg

<210> 511
<211> 83
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 44122 right: 44370 frame: -2 size(aa): 83

<400> 511

Leu Pro Pro Phe His His Arg Pro Asp Ala Gly Pro Arg Asn Arg Pro
1 5 10 15

Pro Met Arg Leu Gly Gly Ser Ala Pro Arg Ala Arg Arg Arg Leu Leu
20 25 30

Ala Gln Ala Gly Ser His Leu Phe Arg Pro Ala Pro Arg Arg Gln Pro
35 40 45

Ala Ile Pro Ala Ala Pro Gly Arg Asp Thr Gly Pro Ala Ser Arg Lys
50 55 60

Ser Pro Gly Arg Pro Gln Gly Cys Pro Arg Ser Leu Pro Thr Val Ser
65 70 75 80

Ile Leu Arg

<210> 512
<211> 179
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 44142 right: 44678 frame: 1 size(aa): 179

<400> 512

Ala Ser Ser Gly Gly Ser Pro Gly Asp Gly Pro Gly Ser Ser Gly Ser
1 5 10 15

Pro Gly Pro Cys Arg Ala Gln Ala Leu Gln Glu Trp Gln Ala Ala Val
20 25 30

Glu Val Leu Asp Glu Ile Gly Gly Cys Leu Leu Gly Arg Ala Ala Tyr
35 40 45

Gly Ala Leu Glu Ala Gln Ile Leu Pro Gly Ala Leu Glu Gly Gly Phe
50 55 60

Glu Ala Gln His Leu Gly Gly Gly Glu Met Gly Ala Val Arg His Gly
65 70 75 80

```
Arg Arg Ser Gly Gly Met Arg Ala Gly Asp Gly Cys Ala Gly Arg Arg
                85                  90                  95

Gly Gly Pro Gln Arg Gly Pro Gly Pro Gln Arg Ala Pro Gly Arg Pro
            100                 105                 110

Gly Gly Gly Leu His Trp Ala Ala Gly Ala Leu Gly Arg Pro Ala Gly
        115                 120                 125

Pro Gly Ala Thr Pro Gly Ala Pro Gly Ala His Arg Ser Pro Ser Arg
    130                 135                 140

Trp Thr Trp Pro Trp Pro Gly Ala Ala Ser Pro Gly Gly His Arg Pro
145                 150                 155                 160

Arg Thr Gly Arg Ser Ser Gly Ser Arg Pro Gly Pro Arg Ala Thr Thr
                165                 170                 175

Ala Pro Gly
```

<210> 513
<211> 181
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 44285 right: 44827 frame: -3 size(aa): 181

<400> 513

```
Arg Leu His Pro Arg Pro Gly Ala Pro Arg Leu Ala Trp Ala Ala Ala
1               5                   10                  15

Arg Gln Pro Gly Gly Leu Ala Asp Pro Ala Gln Gly Leu Arg Pro Ala
            20                  25                  30

Pro Arg Arg His Pro Leu Arg Gly Pro Leu Ala Arg Gly Pro Gly Arg
        35                  40                  45

Leu His Pro Gly Ala Val Val Ala Arg Gly Pro Gly Arg Leu Pro Asp
    50                  55                  60

Asp Arg Pro Val Leu Gly Arg Cys Pro Pro Gly Leu Ala Ala Pro Gly
65                  70                  75                  80

His Gly His Val His Leu Glu Gly Leu Arg Cys Ala Pro Gly Ala Pro
                85                  90                  95

Gly Val Ala Pro Gly Pro Ala Gly Arg Pro Ser Ala Pro Ala Ala Gln
            100                 105                 110

Trp Arg Pro Pro Pro Gly Arg Pro Gly Ala Arg Cys Gly Pro Gly Pro
        115                 120                 125

Arg Cys Gly Pro Pro Leu Arg Pro Ala His Pro Ser Pro Ala Leu Ile
    130                 135                 140
```

```
Pro Pro Leu Arg Leu Pro Cys Leu Thr Ala Pro Ile Ser Pro Pro Pro
145                 150                 155                 160

Arg Cys Trp Ala Ser Lys Pro Pro Ser Asn Ala Pro Gly Arg Ile Cys
                165                 170                 175

Ala Ser Ser Ala Pro
            180
```

<210> 514
<211> 127
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 44360 right: 44740 frame: 3 size(aa): 127

<400> 514

```
Asn Gly Gly Ser Gln Ala Trp Glu Ala Glu Arg Trp Asp Glu Ser Arg
1               5                   10                  15

Arg Arg Met Arg Arg Ala Gln Arg Arg Ala Ala Ala Arg Pro Gly Ala
            20                  25                  30

Ala Ala Gly Pro Gly Thr Pro Gly Arg Trp Pro Pro Leu Gly Gly Trp
        35                  40                  45

Gly Ala Gly Pro Ser Gly Arg Pro Arg Gly His Ser Gly Gly Ala Gly
    50                  55                  60

Gly Ala Ser Glu Pro Leu Gln Val Asp Met Ala Val Ala Gly Gly Ser
65                  70                  75                  80

Gln Pro Arg Gly Ala Pro Pro Gln Asp Gly Pro Val Ile Arg Lys Pro
                85                  90                  95

Thr Gly Ala Pro Arg His Asp Gly Thr Gly Met Lys Pro Thr Gly Ala
            100                 105                 110

Pro Arg Gln Gly Pro Pro Glu Gly Val Pro Pro Arg Gly Gly Ser
        115                 120                 125
```

<210> 515
<211> 227
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 44374 right: 45054 frame: -2 size(aa): 227

<400> 515

```
Thr Thr Pro Pro Arg Pro Gly Pro Lys Pro Arg Ala Ala His Ala Leu
1               5                   10                  15

Arg Leu Leu Gly Asp Arg Gly Arg Pro Pro Arg Arg Arg Pro Leu His
```

20 25 30

Pro Gly Ala Asp Pro Pro Asp Arg Arg Pro Pro Pro Gly Asp Leu Arg
35 40 45

Arg His Thr Gly Gly Arg Met Arg Leu Leu Leu Leu Leu Leu Ala Leu
50 55 60

Val Pro Ala Ala Ala Trp Ala Asp Ala Pro Pro Asp Gly Phe Ile Pro
65 70 75 80

Asp Pro Gly Arg Pro Gly Trp Arg Gly Gln Arg Pro Asp Ser Pro Ala
85 90 95

Val Trp Gln Thr Pro Pro Arg Ala Tyr Asp Pro Pro Leu Gly Gly Thr
100 105 110

Pro Ser Gly Gly Pro Trp Arg Gly Ala Pro Val Gly Phe Ile Pro Val
115 120 125

Pro Ser Trp Arg Gly Ala Pro Val Gly Phe Arg Met Thr Gly Pro Ser
130 135 140

Trp Gly Gly Ala Pro Arg Gly Trp Leu Pro Pro Ala Thr Ala Met Ser
145 150 155 160

Thr Trp Arg Gly Ser Asp Ala Pro Pro Ala Pro Pro Glu Trp Pro Leu
165 170 175

Gly Leu Pro Asp Gly Pro Ala Pro Gln Pro Pro Asn Gly Gly His Leu
180 185 190

Pro Gly Val Pro Gly Pro Ala Ala Ala Pro Gly Leu Ala Ala Ala Leu
195 200 205

Leu Cys Ala Arg Arg Ile Arg Arg Arg Leu Ser Ser His Arg Ser Ala
210 215 220

Ser His Ala
225

<210> 516
<211> 171
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 44401 right: 44913 frame: 2 size(aa): 171

<400> 516

Glu Pro Ala Thr Asp Ala Pro Gly Ala Glu Glu Gly Arg Ser Glu Ala
1 5 10 15

Arg Gly Arg Ser Gly Pro Arg Asp Ala Arg Glu Val Ala Ser Ile Gly
20 25 30

Arg Leu Gly Arg Trp Ala Val Arg Gln Ala Gln Gly Pro Leu Arg Gly
35 40 45

```
Arg Arg Gly Arg Ile Gly Ala Pro Pro Gly Gly His Gly Arg Gly Arg
    50                  55                  60

Gly Gln Pro Ala Pro Gly Gly Thr Ala Pro Gly Arg Ala Gly His Pro
65                  70                  75                  80

Glu Ala Asp Arg Gly Pro Ala Pro Arg Arg His Arg Asp Glu Ala Asp
                85                  90                  95

Arg Gly Pro Ala Pro Gly Ala Pro Gly Gly Gly Ala Ala Glu Gly Arg
            100                 105                 110

Val Val Gly Pro Gly Arg Gly Leu Pro Asp Arg Arg Ala Val Gly Pro
        115                 120                 125

Leu Pro Thr Pro Ala Gly Ala Pro Arg Val Gly Asp Glu Ala Val Arg
    130                 135                 140

Trp Gly Val Gly Pro Gly Arg Ser Arg His Gln Gly Gln Gln Glu Gln
145                 150                 155                 160

Gln Glu Pro His Ala Ala Ser Cys Met Ala Ala
                165                 170
```

<210> 517
<211> 84
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 44637 right: 44888 frame: -1 size(aa): 84

<400> 517

```
Gly Ser Cys Cys Ser Cys Trp Pro Trp Cys Arg Leu Arg Pro Gly Pro
1               5                   10                  15

Thr Pro His Leu Thr Ala Ser Ser Pro Thr Arg Gly Ala Pro Ala Gly
            20                  25                  30

Val Gly Ser Gly Pro Thr Ala Arg Arg Ser Gly Arg Pro Arg Pro Gly
        35                  40                  45

Pro Thr Thr Arg Pro Ser Ala Ala Pro Pro Pro Gly Ala Pro Gly Ala
    50                  55                  60

Gly Pro Arg Ser Ala Ser Ser Arg Cys Arg Arg Gly Ala Gly Pro Arg
65                  70                  75                  80

Ser Ala Ser Gly
```

<210> 518
<211> 168
<212> PRT
<213> Cyanophage S-2L

<220>

<221> misc_feature
<223> New ORF = left: 44744 right: 45247 frame: 3 size(aa): 168

<400> 518

Ala Leu Gly Gly Val Cys Gln Thr Ala Gly Leu Ser Gly Arg Cys Pro
1 5 10 15

Arg Gln Pro Gly Arg Pro Gly Ser Gly Met Lys Pro Ser Gly Gly Ala
20 25 30

Ser Ala Gln Ala Ala Ala Gly Thr Arg Ala Ser Arg Ser Ser Arg Ser
35 40 45

Leu Met Arg Pro Pro Val Trp Arg Arg Arg Ser Pro Gly Gly Gly Arg
50 55 60

Arg Ser Gly Gly Ser Ala Pro Gly Cys Arg Gly Arg Arg Arg Gly Gly
65 70 75 80

Arg Pro Arg Ser Pro Ser Arg Arg Arg Ala Cys Ala Ala Arg Gly Phe
85 90 95

Gly Pro Gly Arg Gly Gly Val Val His Trp Gly Thr Pro Trp Val Glu
100 105 110

Val Gly Ser Gln Pro Pro Cys Pro Ser Thr Arg Ser Thr Arg Arg Cys
115 120 125

Pro Asp Arg Ala Cys Gly Trp Arg Gly Ser Pro Ser Ser Cys Ala Gly
130 135 140

His Leu Ile Ile Asn Asn Gln Ser Ile Trp Glu Asp Lys Ser Ile Phe
145 150 155 160

Gly Phe Ser Pro Cys Asn Pro Val
165

<210> 519
<211> 120
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 44823 right: 45182 frame: 1 size(aa): 120

<400> 519

Ser Arg Gln Val Gly Arg Arg Pro Arg Pro Gln Pro Ala Pro Gly Pro
1 5 10 15

Ala Gly Ala Ala Gly Ala Ser Cys Gly Leu Leu Tyr Gly Gly Val Asp
20 25 30

Leu Pro Glu Ala Val Ala Gly Leu Ala Asp Leu Leu Arg Gly Ala Gly
35 40 45

Asp Asp Val Glu Ala Asp Gly Pro Gly Leu Arg Ala Asp Val Gly His

50 55 60

Val Arg Leu Glu Ala Ser Gly Arg Val Glu Gly Ala Ser Phe Thr Gly
65 70 75 80

Ala Pro Pro Gly Ser Arg Trp Ala Pro Ser Arg Arg Ala Pro Ala Pro
85 90 95

Asp Pro Pro Gly Asp Ala Gln Ile Glu Leu Ala Ala Gly Glu Asp Leu
100 105 110

Leu Pro Leu Val Leu Ala Thr Ser
115 120

<210> 520
<211> 128
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 44831 right: 45214 frame: -3 size(aa): 128

<400> 520

Phe Val Phe Pro Asn Gly Leu Val Val Asn Tyr Glu Val Ala Ser Thr
1 5 10 15

Arg Gly Arg Arg Ser Ser Pro Ala Ala Ser Ser Ile Trp Ala Ser Pro
20 25 30

Gly Gly Ser Gly Ala Gly Ala Arg Arg Leu Gly Ala His Leu Asp Pro
35 40 45

Gly Gly Ala Pro Val Asn Asp Ala Pro Ser Thr Arg Pro Glu Ala Ser
50 55 60

Ser Arg Thr Cys Pro Thr Ser Ala Arg Arg Pro Gly Pro Ser Ala Ser
65 70 75 80

Thr Ser Ser Pro Ala Pro Arg Ser Arg Ser Ala Arg Pro Ala Thr Ala
85 90 95

Ser Gly Arg Ser Thr Pro Pro Tyr Arg Arg Pro His Glu Ala Pro Ala
100 105 110

Ala Pro Ala Gly Pro Gly Ala Gly Cys Gly Leu Gly Arg Arg Pro Thr
115 120 125

<210> 521
<211> 96
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 44892 right: 45179 frame: -1 size(aa): 96

<400> 521

```
Gly Gly Gln His Lys Arg Lys Glu Ile Leu Ala Ser Arg Lys Leu Asp
1               5                   10                  15

Leu Gly Ile Ala Gly Trp Ile Trp Cys Trp Gly Thr Ala Ala Gly Ser
            20                  25                  30

Pro Pro Arg Pro Arg Gly Cys Pro Ser Glu Arg Arg Pro Leu Asp Pro
        35                  40                  45

Ala Arg Ser Leu Glu Pro His Met Pro Tyr Val Cys Ser Glu Thr Gly
    50                  55                  60

Ala Val Arg Leu Asp Val Val Pro Cys Thr Pro Glu Gln Ile Arg Gln
65                  70                  75                  80

Thr Gly Asp Arg Leu Arg Glu Ile Tyr Ala Ala Ile Gln Glu Ala Ala
                85                  90                  95

<210>  522
<211>  59
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 44892 right: 45179 frame: -1 size(aa): 96


<400>  522

Gly Met Cys Gly Ser Arg Leu Arg Ala Gly Ser Arg Gly Arg Arg Ser
1               5                   10                  15

Leu Gly His Pro Leu Gly Arg Gly Gly Leu Pro Ala Ala Val Pro Gln
            20                  25                  30

His Gln Ile His Pro Ala Met Pro Arg Ser Ser Leu Arg Leu Ala Arg
        35                  40                  45

Ile Ser Phe Leu Leu Cys Trp Pro Pro His Asn
    50                  55

<210>  523
<211>  63
<212>  PRT
<213>  Cyanophage S-2L

<220>
<221>  misc_feature
<223>  New ORF = left: 45058 right: 45246 frame: -2 size(aa): 63


<400>  523

Thr Gly Leu Gln Gly Glu Asn Pro Lys Ile Asp Leu Ser Ser Gln Met
1               5                   10                  15

Asp Trp Leu Leu Ile Met Arg Trp Pro Ala Gln Glu Glu Gly Asp Pro
            20                  25                  30
```

Arg Gln Pro Gln Ala Arg Ser Gly His Arg Arg Val Asp Leu Val Leu
35 40 45

Gly His Gly Gly Trp Glu Pro Thr Ser Thr Gln Gly Val Pro Gln
50 55 60

<210> 524
<211> 79
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 45189 right: 45425 frame: -1 size(aa): 79

<400> 524

Asn Tyr Leu Phe Phe Val Lys Val Gly Leu Val Asn Pro Glu Lys Pro
1 5 10 15

Leu Pro Ser Leu Gly Arg Pro Leu Ala Glu Gln Phe Val Ile Leu Phe
20 25 30

Pro Ile Leu Gly Asn Leu Lys Leu Tyr His Ser Phe Leu Glu Thr Phe
35 40 45

Arg Leu Leu Lys Lys Gly Val Tyr Ser Gly Val Lys Arg Asp Tyr Lys
50 55 60

Val Lys Thr Arg Lys Leu Ile Cys Leu Pro Lys Trp Ile Gly Cys
65 70 75

<210> 525
<211> 60
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 45241 right: 45420 frame: 2 size(aa): 60

<400> 525

Ser Arg Leu Thr Pro Glu Tyr Thr Pro Phe Phe Asn Ser Leu Lys Val
1 5 10 15

Ser Lys Lys Glu Trp Tyr Asn Phe Lys Leu Pro Arg Ile Gly Asn Lys
20 25 30

Ile Thr Asn Cys Ser Ala Lys Gly Leu Pro Ser Glu Gly Ser Gly Phe
35 40 45

Ser Gly Leu Thr Asn Pro Thr Leu Thr Lys Asn Lys
50 55 60

<210> 526
<211> 52
<212> PRT
<213> Cyanophage S-2L

<220>
<221> misc_feature
<223> New ORF = left: 45250 right: 45405 frame: -2 size(aa): 52

<400> 526

Gly Trp Val Gly Gln Pro Gly Lys Thr Ala Thr Leu Ala Trp Lys Ala
1 5 10 15

Leu Ser Gly Ala Ile Cys Asn Phe Ile Ser Asn Ser Trp Gln Phe Lys
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Val Val Pro Phe Leu Leu Gly Asp Phe Gln Ala Ile Glu Lys Gly Gly
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Val Leu Trp Ser
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Gly Asn Tyr Lys Lys Lys Gly Ile Tyr Arg Val Leu Asn Glu Cys Gln
20 25 30

Glu Ile Glu Gly Ser Val Met Ser Phe Phe Arg Phe Gly Phe Lys Ile
35 40 45

Ile Cys Phe Leu Leu Arg Leu Gly Trp Ser Thr Arg Lys Asn Arg Tyr
50 55 60

Pro Arg Leu Glu Gly Pro
65 70